

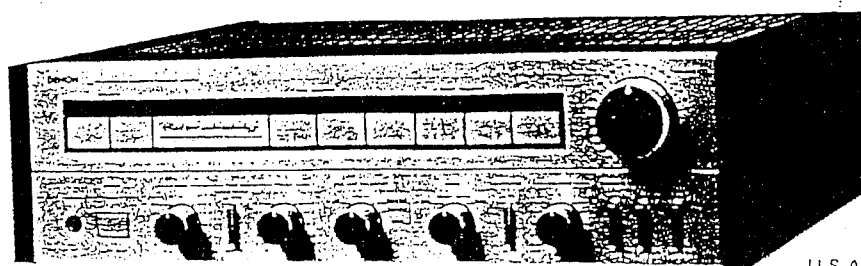
DENON

Hi-Fi Pre-Main Amplifier

SERVICE MANUAL

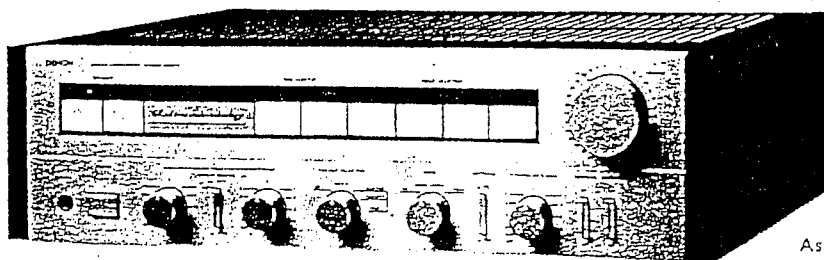
MODEL **PMA-777/757**

SOLID STATE
PRE MAIN AMPLIFIER



PMA-777

U.S.A. Version Only



PMA-757

Asia Version Only

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NIPPON COLUMBIA CO., LTD



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVISING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD.
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

WARNING:

1. Component parts

Parts marked with Δ and/or shading in this service manual have special characteristics important to safety. Be sure to use the specified parts for replacement.

2. Leakage current

Before returning the appliance to customer, test the leakage current when the power plug is connected. Use a calibrated (with an error of not more than 5%) leakage current tester and measure the leakage current from any exposed metal to the earth ground. Reverse the power plug polarity and test the above again.

Any current measured MUST NOT EXCEED 0.5 milliamps. Corrective measure must be taken if it exceeds the limit.

SPECIFICATIONS

• PMA-777

POWER AMPLIFIER SECTION

Rated Output Power: Both channel drives (TUNER — SP OUT)
100 Watts minimum rms per channel (8 ohm Load) with less than 0.02% total harmonic distortion from 20 Hz to 20 kHz.
120 W + 120 W (4 ohm Load)
20 Hz to 20 kHz at T.H.D. 0.05% (for U.S.A.)
1 kHz (4 ohm Load) 150 W + 150 W (DIN, T.H.D. 1%)
1 kHz (4 ohm Load) 30 W + 30 W (IEC, Subject to change by temperature test.) (for outside U.S.A.)

Total Harmonic Distortion: 0.003% (20 Hz — 20 kHz at —3 dB rated output 8 ohm Load)
0.02% (20 Hz — 20 kHz at rated output 8 ohm Load) (U.S.A.)

Intermodulation Distortion: Below 7 kHz/60 Hz: 1/4 0.002% (at amplitude output equivalent to rated output)

Output Bandwidth: 5 Hz — 80 kHz (IHF T.H.D. 0.03%)
Transmission Characteristics: 1 Hz — 250 kHz ± 0 dB (at 1 W output)

Input Sensitivity: 150 mV
Input Impedance: 47 k ohm
Output Impedance: 0.08 ohm (1 kHz)
Output Terminals: Speaker: A or B Load 4 — 16 ohm
A + B Load 8 — 16 ohm
Headphone/Stereo headphone (390 mW/8 ohm)

EQUALIZER AMPLIFIER SECTION

Equalizer Amplifier Output: Maximum Output: 12 V (at 47 k ohm Load)
Rated Output: 150 mV
Total harmonic distortion: less than 0.002% (at 1 kHz, 8 V output)

Input Sensitivity/Input Impedance: PHONO-1, 2 MM 2.5 mV 47 k ohm
MC 200 μ V 100 ohm
TUNER 150 mV 47 k ohm
DAD, VIDEO/AUX, TAPE 150 mV 47 k ohm
RIAA Deviation: PHONO-1, 2 MM within ± 0.2 dB (20 Hz — 100 kHz)
MC within ± 0.2 dB (20 Hz — 100 kHz)

OVERALL CHARACTERISTICS

SN Ratio (IHF A Network): PHONO-1, 2
MM 88 dB (input terminals short-circuited for 2.5 mV input)
MC 72 dB (input terminals short-circuited for 250 μ V input)
TUNER, TAPE, DAD, VIDEO/AUX: 110 dB (input terminals short-circuited)

Tone Control Adjustable Range: BASS 100 Hz ± 8 dB
TREBLE 10 kHz ± 8 dB

Filtering Characteristics: SUBSONIC 20 Hz, 6 dB/oct

Loudness Characteristics: Low frequency 100 Hz + 7 dB
High frequency 10 kHz + 6 dB

AC OUTLET: (For U.S.A., Canada and Asia)
SWITCHED $\times 2$, 100 W (Total)
UNSWITCHED $\times 1$, 250 W

• PMA-757

POWER AMPLIFIER SECTION

Rated Output Power: Both channel drives (TUNER — SP OUT)
80 Watts minimum rms per channel (8 ohm Load) with less than 0.02% total harmonic distortion from 20 Hz to 20 kHz.
100 W + 100 W (4 ohm Load)
20 Hz to 20 kHz at T.H.D. 0.05% (for U.S.A.)
1 kHz (4 ohm Load) 110 W + 110 W (DIN, T.H.D. 1%)
1 kHz (4 ohm Load) 30 W + 30 W (IEC, Subject to change by temperature test.) (for outside U.S.A. and Canada)

Total Harmonic Distortion: 0.005% (20 Hz — 20 kHz at —3 dB rated output 8 ohms Load) 0.02% (20 Hz — 20 kHz at rated output 8 ohm Load) (U.S.A.)

Intermodulation Distortion: Below 7 kHz/60 Hz: 1/4 0.003% (at amplitude output equivalent to rated output)

Output Bandwidth: 5 Hz — 80 kHz (IHF T.H.D. 0.03%)
Transmission Characteristics: 1 Hz — 200 kHz ± 0 dB (at 1 W output)
Input Sensitivity: 150 mV
Input Impedance: 47 k ohm
Output Impedance: 0.08 ohm (1 kHz)
Output Terminals: Speaker: A or B Load 4 — 16 ohm
A + B Load 8 — 16 ohm
Headphone/Stereo headphone (310 mW/8 ohm)

EQUALIZER AMPLIFIER SECTION

Equalizer Amplifier Output: Maximum Output: 12 V (at 47 k ohm Load)
Rated Output: 150 mV
Total harmonic distortion: less than 0.002% (at 1 kHz, 8 V output)

Input Sensitivity/Input Impedance: PHONO MM 2.5 mV 47 k ohm
MC 200 μ V 100 ohm
TUNER 150 mV 47 k ohm
DAD, VIDEO/AUX, TAPE 150 mV 47 k ohm

NOTE: The following code correspond to the appropriate models.
E2 for Europe, E1 for Asia, E3 for U.S.A., EK for U.K., EA for Australia and EC for Canada.
This Service Manual is prepared based on E2 Gold Version.

POWER SOURCE: Germany and France AC 220 V, 50 Hz;
U.K. and Australia AC 240 V, 50 Hz;
U.S.A. AC 120 V, 60 Hz; Asia 110/120/220/240 V, 50/60 Hz (Multiple)

POWER CONSUMPTION: 245 W (U.S.A.); 250 W (IEC); 220 W (Multiple) 800 W Maximum Output

DIMENSIONS: 470 mm (18-1/2")W \times 136 mm (5-11/32")H \times 413 mm (16-1/4")D (with Wood Board)
434 mm (17-5/64")W \times 136 mm (5-11/32")H \times 413 mm (16-1/4")D (without Wood Board) (including rubber feet, control knobs, and terminals.)

WEIGHT: 12.5 kg (27 lbs 9 oz) (with Wood Board)
11.5 kg (25 lbs 6 oz) (without Wood Board)

Design and specifications are subject to change without prior notice.

RIAA Deviation: PHONO MC within ± 0.3 dB (20 Hz — 100 kHz)

OVERALL CHARACTERISTICS

SN Ratio (IHF A Network): PHONO
MM 87 dB (input terminals short-circuited for 2.5 mV input)
MC 70 dB (input terminals short-circuited for 250 μ V input)
TUNER, TAPE, DAD, VIDEO/AUX: 110 dB (input terminals short-circuited)

Tone Control Adjustable Range: BASS 100 Hz ± 8 dB
TREBLE 10 kHz ± 8 dB

Filtering Characteristics: SUBSONIC 20 Hz, 6 dB/oct

Loudness Characteristics: Low frequency 100 Hz + 7 dB
High frequency 10 kHz + 6 dB

AC OUTLET: (For U.S.A., Canada and Asia)
SWITCHED $\times 2$, 100 W (Total)
UNSWITCHED $\times 1$, 250 W

POWER SOURCE: Germany and France AC 220 V, 50 Hz;
U.K. and Australia AC 240 V, 50 Hz;
U.S.A. and Canada AC 120 V, 60 Hz;
Asia 110/120/220/240 V, 50/60 Hz (Multiple)

POWER CONSUMPTION: 215 W (U.S.A.); 500 VA (Canada); 240 W (IEC); 190 W (Multiple); 650 W Maximum Output

DIMENSIONS: 470 mm (18-1/2")W \times 136 mm (5-11/32")H \times 413 mm (16-1/4")D (with Wood Board)
434 mm (17-5/64")W \times 136 mm (5-11/32")H \times 413 mm (16-1/4")D (without Wood Board) (including rubber feet, control knobs, and terminals.)

WEIGHT: 13 kg (28 lbs 11 oz) (with Wood Board)
12 kg (26 lbs 7 oz) (without Wood Board)
10.5 kg (23 lbs 2 oz) (without Wood Board) (For U.S.A. & Canada)

Design and specifications are subject to change without prior notice.

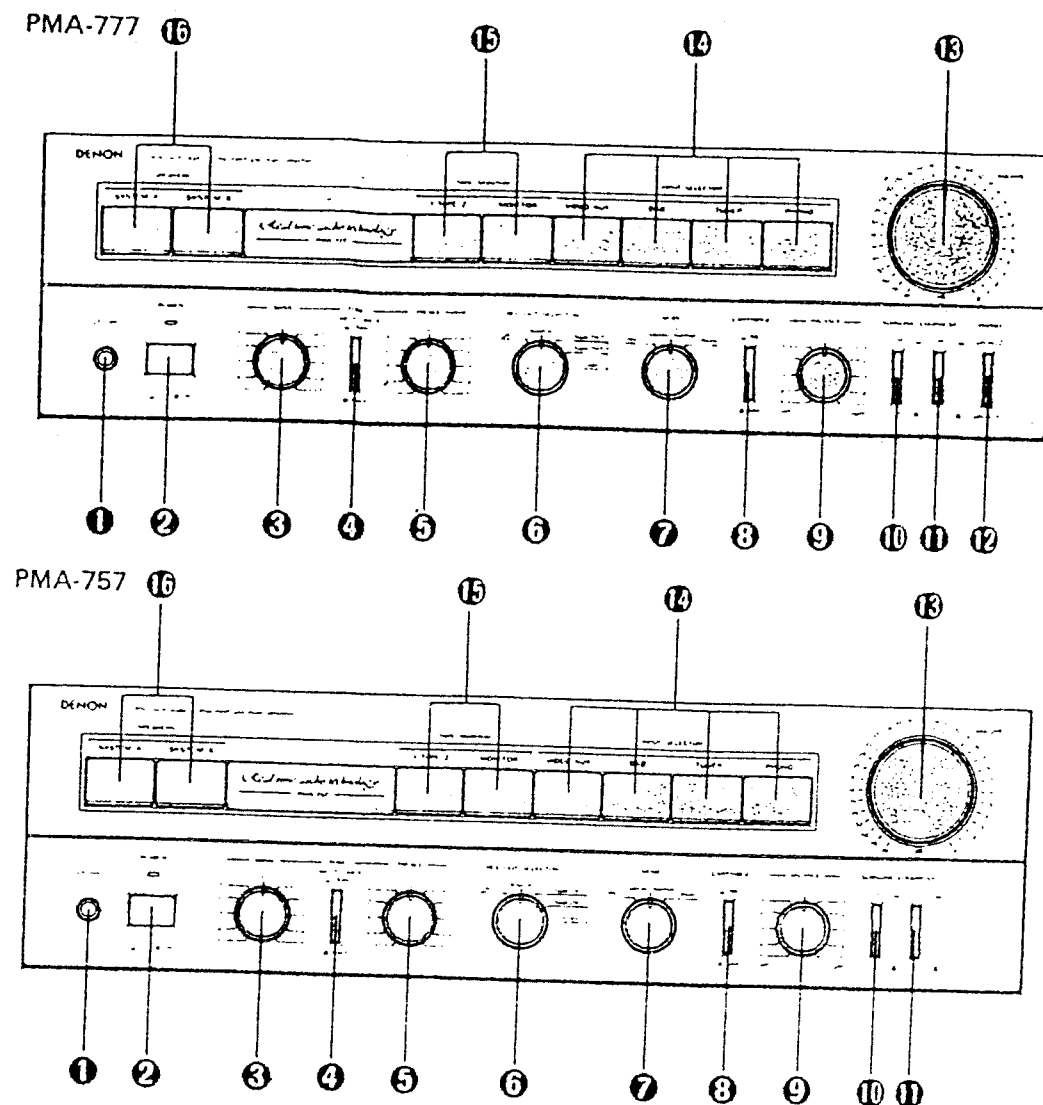


Fig. 1

- | | |
|--|--|
| ① phones (Headphone Jack) | ⑨ BALANCE (Balance Control) |
| ② POWER & LED Indicator (Power Switch and LED Indicator) | ⑩ SUBSONIC (Subsonic Filter Switch) |
| ③ BASS (Bass Control) | ⑪ LOUDNESS (Loudness Switch) |
| ④ DIRECT COUPLE (Direct Coupling Switch) | ⑫ PHONO (Turntable Select Switch) |
| ⑤ TREBLE (Treble Control) | ... only for PMA-777 |
| ⑥ REC OUT SELECTOR (REC OUT Selector Switch) | ☐ Phono 1, ☐ Phono 2 |
| off, source, tape 1 ▶ 2, tape 2 ▶ 1 | ⑬ VOLUME (Volume Control) |
| copy | ⑭ INPUT SELECTOR (Input Selector Switch) |
| ⑦ MODE (Mode Switch) | PHONO, TUNER, DAD, VIDEO/AUX |
| rev. stereo normal, mono | ⑮ TAPE MONITOR (Tape Monitor Switch) |
| ⑧ CARTRIDGE (Cartridge Select Switch) | ⑯ SPEAKERS (Speaker Select Switch) |
| ☐ MC, ☐ MM | SYSTEM A, SYSTEM B |

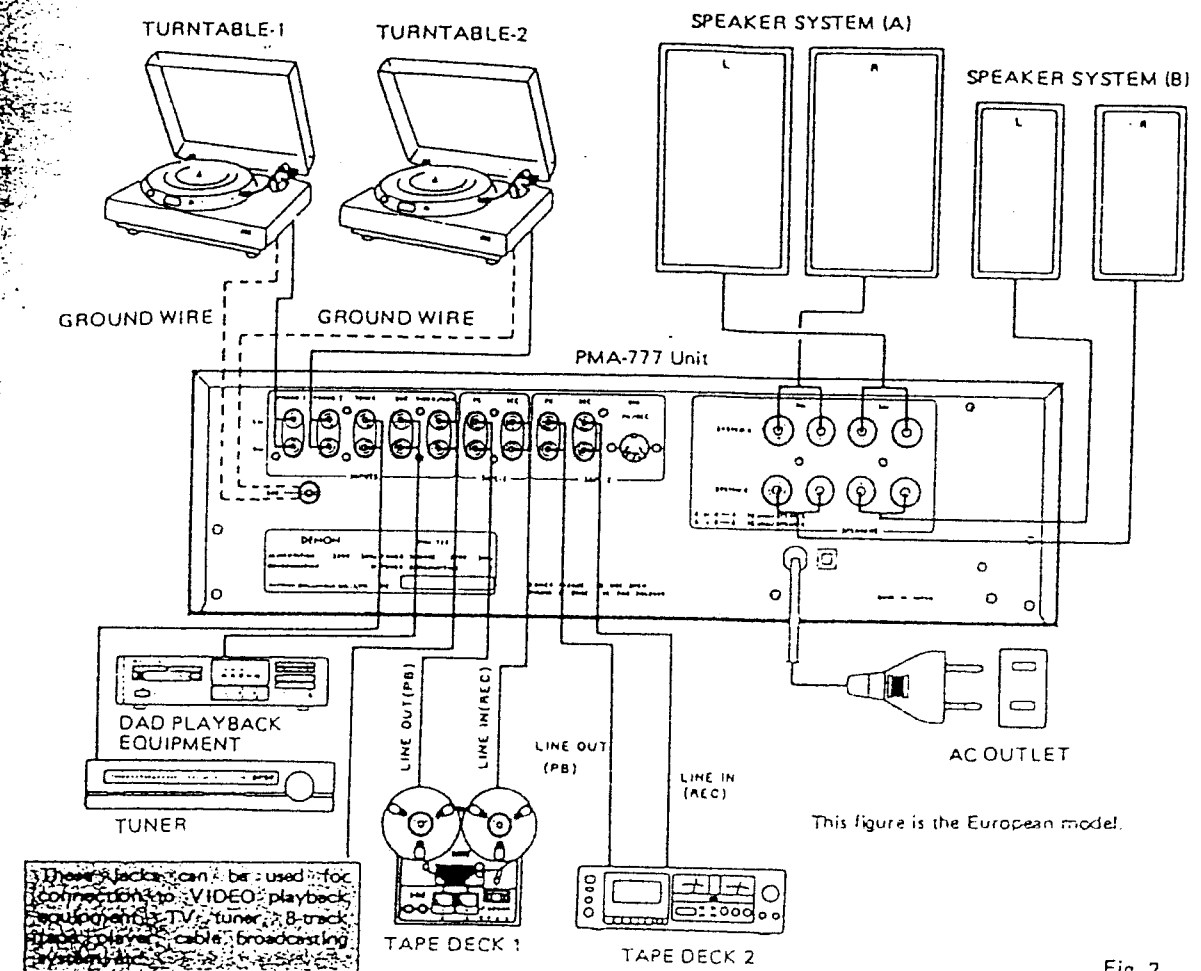


Fig. 2

(1) CONNECTIONS

- Do not plug power cord into AC outlet until all connections are completed.
- Connect right (R) channel plug to right (R) channel jack, and left channel plug to left channel jack.
- Insert plugs firmly into corresponding jacks. If connection is incomplete, noise may be generated.
- Plug audio component power cords into AC OUTLET terminal. Do not use this terminal for other electrical appliances, such as hair dryers. (NOT INCLUDED IN SYSTEMS FOR USE IN EUROPE AND AUSTRALIA)
- Do not bundle pin plug cords with power cord. Do not place pin plug cords near power transformer, or hum and other noise may occur.
- Always connect a pin plug cord or shorting pins to "PHONO" input terminals because these terminals are highly sensitive. If these terminals are not connected, induction hum may occur.

(2)

AC OUTLETS (NOT INCLUDED IN SYSTEMS FOR USE IN EUROPE AND AUSTRALIA)

AC outlets are used for connecting amplifier component units, such as tuner, turntable, tape deck, etc.

- SWITCHED (Capacity: 100 W):

This outlet is turned on/off when main power switch is turned on/off.

- UNSWITCHED (Total capacity: 250 W):

These outlets are always ON whether power switch is on or off.

(3)

LINE VOLTAGE (Voltage select switch) ... NOT INCLUDED IN SYSTEMS FOR USE IN EUROPE, U.S.A., CANADA AND AUSTRALIA

- The desired voltage may be set with the VOLTAGE SELECTOR KNOB on the back panel using a screw driver.

- Do not twist the VOLTAGE SELECTOR KNOB with excessive force. It may be damaged.

- If the voltage select switch does not turn smoothly, see a qualified serviceman.

PRE-SET
LINE VOLTAGE



Fig. 3

METHOD OF ADJUSTMENTS

Carry out adjustment at room temperature and normal humidity with the power source operating at the rated voltage.

ADJUSTMENT OF IDLING CURRENT (ETC0738, ETC0738B) — Fig. 4

Preparation

- 1 Place the unit in normal operating condition, avoid such good ventilating location close to air conditioner, circulating fan, etc.

The unit circumference temperature must be in $15^{\circ} \sim 30^{\circ}\text{C}$.

Set the switches as follows:

- POWER SWITCH → OFF
- VOLUME CONTROL → $-\infty$ (∞)
- DIRECT COUPLE → DIRECT
- SPEAKER TERMINAL → No load (Do not connect speakers, dummy resistors.)

Adjustment

- 1 Remove top cover and rotate VR301 (Lch) counterclockwise (∞) and VR302 (Rch) clockwise (∞) on the ETC-738. Connect a DC voltmeter to the test point (Lch TP-1, 2 and Rch TP-3, 4).
- 2 Connect the power cord and turn the POWER switch on. Immediately after turning on the power, rotate VR301 clockwise (∞), VR302 counterclockwise (∞) and adjust the test point voltage value —
PMA-777: $2\text{ mV} \pm 0.2\text{ mV DC}$
PMA-757: $5\text{ mV} \pm 0.2\text{ mV DC}$
- 3 3 minutes after the preparatory adjustment as in step 2, rotate VR301, VR302 and obtain the voltage value —
PMA-777: $11\text{ mV} \pm 2\text{ mV DC}$
PMA-757: $13\text{ mV} \pm 0.5\text{ mV DC}$

CAUTION

VR301 and VR302 of the present model have opposite turning directions in adjustment. In the future by changing of the board, adjustment of VR302 will be the same manner as of VR301. Therefore after the board has changed (222 1090 208), adjust the VR302 with the possible care.

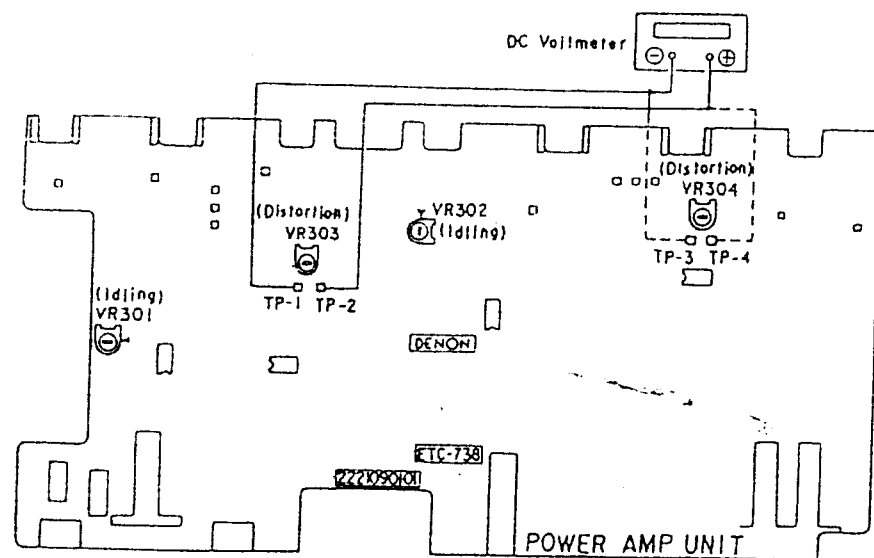


Fig. 4

ADJUSTMENT OF DISTORTION FACTOR (Fig. 4)

- 1 Connect a 8-ohm loading resistor across the speaker terminal.
- 2 Inject 20 kHz sine wave signal through the TUNER terminal. Operate both L and R channels and obtain 50 watts (20 Wrms) output power across the 8-ohm loading resistor.
- 3 Adjust VR303 (Lch) and VR304 (Rch) for minimum distortion factor (be sure to put bottom cover to the unit during the adjustment).

ADJUSTMENT OF NEUTRAL POTENTIAL POINT (Fig. 5, Fig. 5')

Preparation

- 1 Insert the shorting pin into the PHONO input terminal.
- 2 Connect a digital voltmeter (be able to measure 0.01 mV through 1 mV DC) to the REC output (Lch and Rch).
- 3 Connect a 100-k ohm (1/4 watt or so) resistor across the test point (Lch TP-3, 4 and Rch TP-5, 6) on the EQ Amp unit.
- 4 Set the switches as follows:

- INPUT SELECTOR → PHONO
- REC OUT SELECTOR → Source
- CARTRIDGE → MM
- VOLUME CONTROL → $-\infty$ (∞)

Adjustment

- 1 Approximately 2 minutes after turning on the POWER switch, rotate — VR103 (PMA-777), VR101 (PMA-757) and adjust the Lch digital meter reading for 0.5 mV DC or less value.
- 2 In the same manner rotate — VR104 (PMA-777), VR102 (PMA-757) and adjust the Rch digital meter reading for 0.5 mV DC or less value.

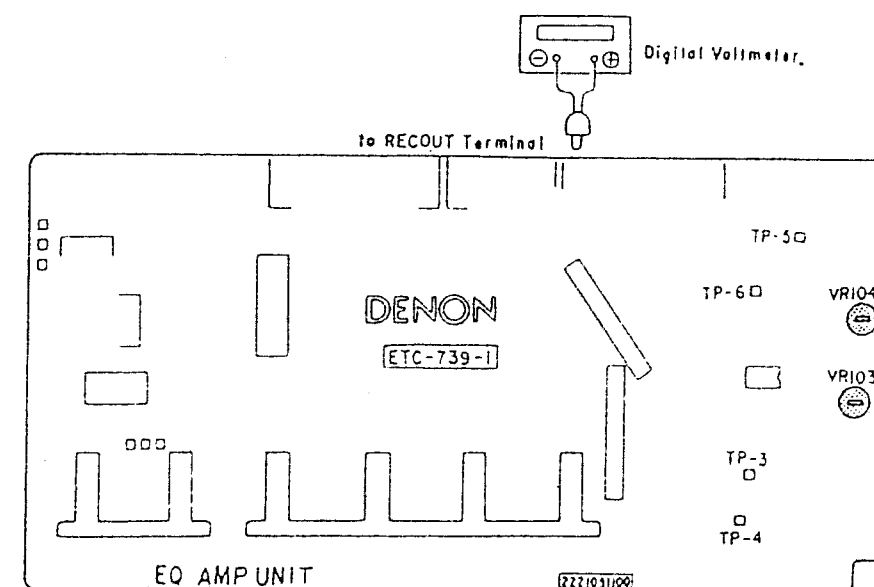


Fig. 5
for : PMA-777

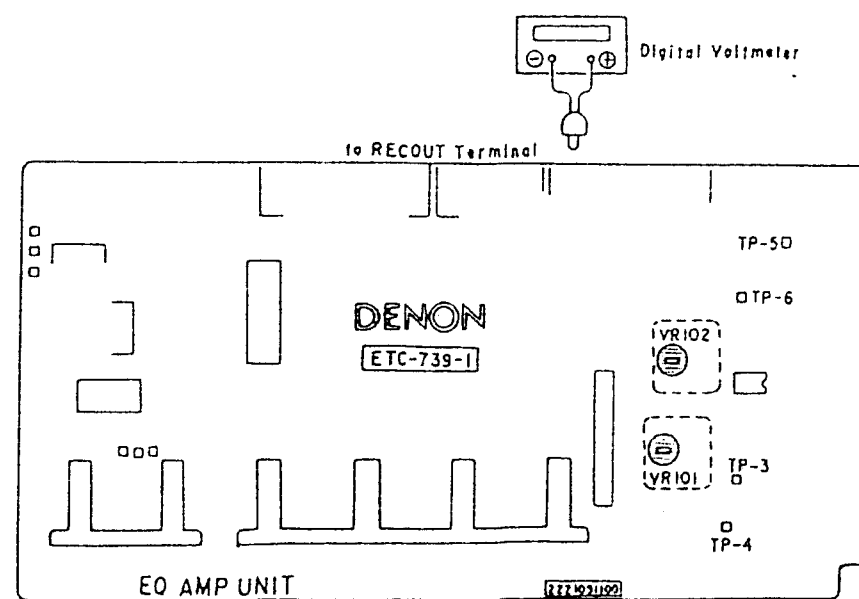
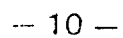


Fig. 5'
for : PMA-757

ETC0740 P.S & PROTECT UNIT



ETC0739 INPUT & EQ. UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
IC101	2630118027	NJM4560DX (JRC) IC
IC103, 104	2630133002	μPC741 (NEC) IC
TR101	2750046008	2SK170(BL)/(V)DVGS FET
~108		
TR602, 603	2750043001	2SK381(B)/(C) FET
TR604	2730236029	2SC2824(Y/O) TRANSISTOR
TR605	2710178039	2SA564A(R) TRANSISTOR
TR606	2710135027	2SA1184(Y/O) TRANSISTOR
D105, 106	2760049008	1S2076 DIODE
D107	2760224001	HZ-30 ZENER
D501	2760191008	W03C DIODE
D604	2760301005	HZ22-2 ZENER
RESISTORS (not included Carbon ±5%, 1/4W Type)		
VR103, 104	EP-5462H19	SOLID VR 100k ohm
CAPACITORS (not included Ceramic ±5%, 50V Type)		
C101	2544145005	0.47μF ±20% 50V ELECTROLYTIC
~103		
C127, 128	2554161008	0.0047μF ±5% 50V PLASTIC FILM
C129	2544157006	470μF ±20% 25V ELECTROLYTIC
C131, 132	2549011008	1μF LOW LEAK 50V ELECTROLYTIC
C133, 134	2544146004	1μF ±20% 50V ELECTROLYTIC
C135, 136	2554173009	0.015μF ±5% 50V PLASTIC FILM
C137, 138	2554131009	270pF ±5% 50V PLASTIC FILM
C139, 140	2554187008	0.056μF ±5% 50V PLASTIC FILM
C141, 142	2554169000	0.01μF ±5% 50V PLASTIC FILM
C143, 144	2544130007	100μF ±20% 10V ELECTROLYTIC
C145, 146	2544146004	1μF ±20% 50V ELECTROLYTIC
C149	2554163006	0.0056μF ±5% 50V PLASTIC FILM
~152		
C153, 154	2531024003	0.01μF +80,-20% 50V CERAMIC
C355, 356	2554169000	0.01μF ±5% 50V PLASTIC FILM
C357, 358	2554177005	0.022μF ±5% 50V PLASTIC FILM
C612	2544153000	47μF ±20% 50V ELECTROLYTIC
C615, 616	2544146004	1μF ±20% 50V ELECTROLYTIC
C179	2531024003	0.01μF +80,-20% 50V CERAMIC
~181		

Ref. No.	Part No.	Part Name & Descriptions
C617 ~624	2531024003	0.01μF +80,-20% 50V CERAMIC
SWITCHES		
SW101	2124513002	SLIDE SW (4-2) REMOTE PH. SELECTOR
SW102	2124330007	SLIDE SW (4-2) REMOTE CARTRIDGE
SW103	2124512003	4P PUSH SWITCH INPUT SEL.
SW104	2124422009	2P PUSH SWITCH T. MONITOR
SW105	2124187001	SLIDE SW (4-4) REMOTE REC OUT
SW106	2124510005	2P PUSH SWITCH S.P.
OTHER PARTS		
LE501	2221091100	P.W. BOARD
L301, 302	EP-5667H1	TERMINAL PIN USED 30
PL601 ~609	2090008146	JUMPER WIRE P=5mm USED 6
	2090008120	JUMPER WIRE P=10mm USED 100
	2090008117	JUMPER WIRE P=12.5mm USED 8
	4140116106	SHIELD COVER USED 2
	3939154008	PR5552K-1 RED LED
	2350007007	INDUCTOR
	3930083000	PILOT LAMP 16V 0.04A USED 9
	4530022208	LAMP COVER (A) USED 7
	4530023207	LAMP COVER (B) USED 1
	1220109007	BLIND SHEET
	4410412200	LED HOLDER
	2034197097	3P CONNECTOR CORD
	2034214019	3P CONNECTOR CORD
	2034185096	3P CONNECTOR CORD
	2034181074	3P CONNECTOR CORD
	2034181087	3P CONNECTOR CORD
	2038132016	5P CONNECTOR CORD
	2140037009	RELAY
	2048100009	HEADPHONE JACK
	2050145007	4P CONNECTOR BASE PHONO
	2036084001	4P CONNECTOR BASE USED 2
	2040079002	6P CONNECTOR BASE
	2048059008	DIN JACK (5P)
	4140240001	EARTH PLATE
	4170043000	RADIATOR USED 2
	4730354019	TAPPING SCREW (2) 3x8 USED 2
	2050190036	3P NH CONNECTOR BASE USED 2
	2050190052	5P NH CONNECTOR BASE
	2050185038	3P WIRE HOLDER USED 7
	2050185054	5P WIRE HOLDER

PRINTED WIRING BOARD PATTERNS AND PARTS LIST

ETC0740 P.S. & PROTECT UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
TR601	2740088018	2SD1406(Y/GRI) TRANSISTOR
TR501	2730235020	2SC1841(E/F) TRANSISTOR
TR502	2730269038	2SC1685(R) TRANSISTOR
~505		
TR506, 507	2730269038	2SA564A(R) TRANSISTOR
D502	2760049008	1S2076 DIODE
D503	2760236031	HZ5C-1 ZENER
D601	2760356005	D5FB20(4001) DIODE
D602	2760151006	102C-1 DIODE
D603	2760256008	HZ-16-2 ZENER
RESISTORS		
R503	2412096008	1.5k ohm ±5% 1/4W CARBON
R504	2410037025	470 ohm ±5% 1/4W METAL OXIDE (NB)
R505	2412116001	10k ohm ±5% 1/4W CARBON
R506	2412108006	4.7k ohm ±5% 1/4W CARBON
R507	2412164008	1M ohm ±5% 1/4W CARBON
R508	2412036000	4.7 ohm ±5% 1/4W CARBON
R509	2412116001	10k ohm ±5% 1/4W CARBON
R510	2412149007	220k ohm ±5% 1/4W CARBON
R511		
R512	2412120000	15k ohm ±5% 1/4W CARBON
R513		
R521	2412140006	100k ohm ±5% 1/4W CARBON
R522	2440085022	100 ohm ±5% 1/4W METAL OXIDE (NB)
R523	2440079025	27 ohm ±5% 1/4W METAL OXIDE (NB)
CAPACITORS		
C359 ~362	2531024003	0.01μF +80,-20% 50V CERAMIC
C501	2544129005	47μF ±20% 10V ELECTROLYTIC
C502	2544161034	330μF ±20% 6.3V ELECTROLYTIC
C503	2531024003	0.01μF +80,-20% 50V CERAMIC
~504		
C504	2531053003	0.01μF +100,-0% 500V CERAMIC
~607		
C508, 609	2546058006	22000/22000μF 63V ELECTROLYTIC
C510	2544063035	100μF ±20% 80V ELECTROLYTIC
C611	2544146004	1μF ±20% 50V ELECTROLYTIC
	2568024018	0.1μF ±20% 250V METALIZED
FUSE		
	2061040023	FUSE (T4A) MINISEMCO
	2061015087	FUSE (T4A) MINISEMCO
OTHER PARTS		
	2221092109	P.W. BOARD
	EP-5667H1	TERMINAL PIN USED 25
	2090008120	JUMPER WIRE P=10mm USED 5
	2050185054	5P WIRE HOLDER
	2050185038	3P WIRE HOLDER USED 2
	2050190036	3PNH CONNECTOR BASE USED 3
	2050190049	4PNH CONNECTOR BASE
	2050122033	3P CONNECTOR PIN ASS'Y USED 2
	2050087039	3P TERMINAL USED 3
	2090052008	JUMPER D=1.6 P=20mm USED 3

Ref. No.	Part No.	Part Name & Descriptions
(R901)J5	2090008120	JUMPER WIRE P=10mm
	2034163063	3P CONNECTOR CORD
	2034193046	3P CONNECTOR CORD
	2020022008	FUSE HOLDER USED 2
	4120952102	CONDENSER BRACKET
	2050144008	8P TERMINAL
	2050178003	EARTH PLATE
	4730354019	TAPPING SCREW (2) 3x8 USED 4
	5130913004	FUSE LABEL

ETC0740D E1 for Asia
(Same as ETC0740 except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C359 ~362	2531024003	0.01μF +80,-20% 50V CERAMIC (DELETE)
C635, 636	2568024018	0.1μF ±20% 250V METALIZED (DELETE)
OTHER PARTS		
	2020022008	FUSE HOLDER (DELETE)
	2061015087	FUSE (T4A) (DELETE)

ETC0740E E3 for U.S.A.
(Same as ETC0740 except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C359 ~361	2531024003	0.01μF +80,-20% 50V CERAMIC (DELETE)
C635, 636	2568024018	0.1μF ±20% 250V METALIZED (DELETE)
OTHER PARTS		
AF301 ~304	2061046001	FUSE (T4A) USED 4 (CHANGE)
AF501	2061046014	FUSE (T4A) (CHANGE)
	5130854037	FUSE LABEL (ADD)
	5130854024	FUSE LABEL (ADD)
(R901)J5	2412321032	4.7 ohm ±5% 1/4W CARBON (NB)

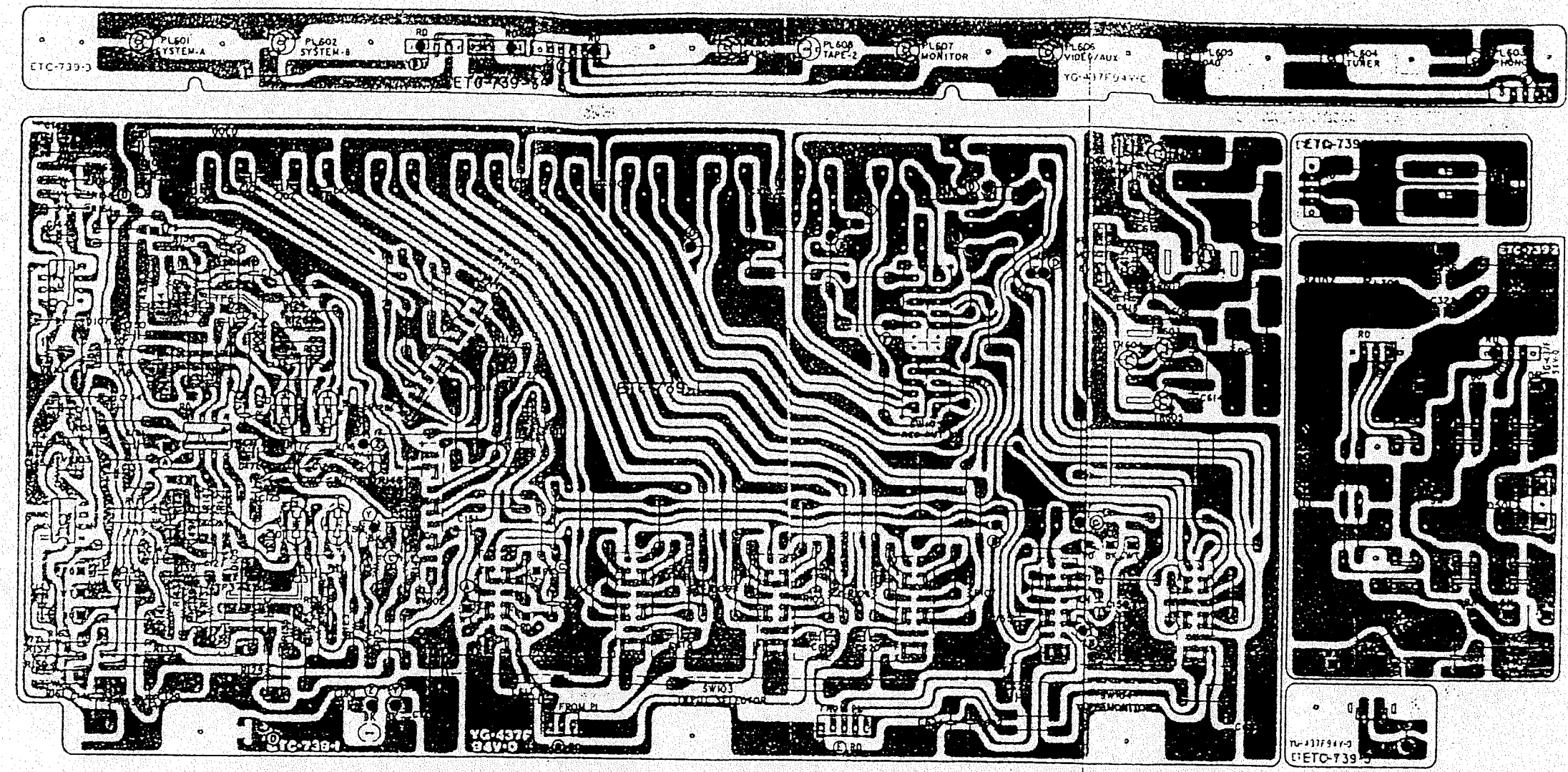
ETC0740E EA for Australia and EK for U.K.
(Same as ETC0740 except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C359 ~361	2531024003	0.01μF +80,-20% 50V CERAMIC (DELETE)
C635, 636	2568024018	0.1μF ±20% 250V METALIZED (DELETE)
OTHER PARTS		
F601	2061015087	FUSE (T4A) MINISEMCO (DELETE)
F602	2061015087	FUSE (T4A) MINISEMCO (ADD)

1 for Asia
0739 except the followings.)

• PMA-777
ETC0739 INPUT & EQ. UNIT

No.	Part Name & Descriptions			
RESISTORS				
6003	470k ohm±5%	1/4W	CARBON	(DELETE)
8120	JUMPER WIRE P=10mm			(CHANGE)
CAPACITORS				
2001	430pF	±5%	50V CERAMIC	(DELETE)
3000	470pF	±5%	50V CERAMIC	(DELETE)
5008	560pF	±5%	50V CERAMIC	(DELETE)
4003	0.01μF	+80,-20%	50V CERAMIC	(DELETE)
5004	240pF	±5%	50V CERAMIC	(DELETE)
6005	47pF	±5%	50V CERAMIC	(CHANGE)
OTHER PARTS				
6008	DIN JACK (5P)			(DELETE)
8120	JUMPER WIRE P=10mm USED 102			(CHANGE)



for U.S.A.
739 except the followings.)

No.	Part Name & Descriptions		
RESISTORS			
003	470k ohm±5%	1/4W CARBON	(DELETE)
120	JUMPER WIRE P=10mm		(CHANGE)
CAPACITORS			
001	430pF	±5%	1/4W CERAMIC (DELETE)
003	0.01μF	+80,-20%	50V CERAMIC (CHANGE)

Ref. No.	Part No.	Part Name & Descriptions
C155, 156	2533643000	470pF ±5% 50V CERAMIC (DELETE)
C171, 172	2533636004	240pF ±5% 50V CERAMIC (DELETE)
C125, 126	2533645008	560pF ±5% 50V CERAMIC (CHANGE)
C173, 174	2533619005	47pF ±5% 50V CERAMIC (CHANGE)
OTHER PARTS		
	2048059008	DIN JACK (5P) (DELETE)
	2090008120	JUMPER WIRE P=10mm USED 102 (CHANGE)

ETC0739F EA for Australia and EK for U.K.
(Same as ETC0739 except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
RESISTORS		
R171, 172	2090008120	JUMPER WIRE P=10mm (CHANGE)
CAPACITORS		
C104 ~107	2533642001	430pF ±5% 50V CERAMIC (DELETE)
C178, 179, 180	2531024003	0.01μF +80,-20% 50V CERAMIC (CHANGE)

Ref. No.	Part No.	Part Name & Descriptions
C155, 156	2533643000	470pF ±5% 50V CERAMIC (DELETE)
C171, 172	2533636004	240pF ±5% 50V CERAMIC (DELETE)
C125, 126	2533645008	560pF ±5% 50V CERAMIC (CHANGE)
C173, 174	2533619005	47pF ±5% 50V CERAMIC (CHANGE)
OTHER PART		
	2090008120	JUMPER WIRE P=10mm USED 102 (CHANGE)



ETC0738E E3 for U.S.A.

(Same as ETC0738 except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C241, 243	2544203002	1 μ F :20% 160V ELECTROLYTIC (CHANGE)

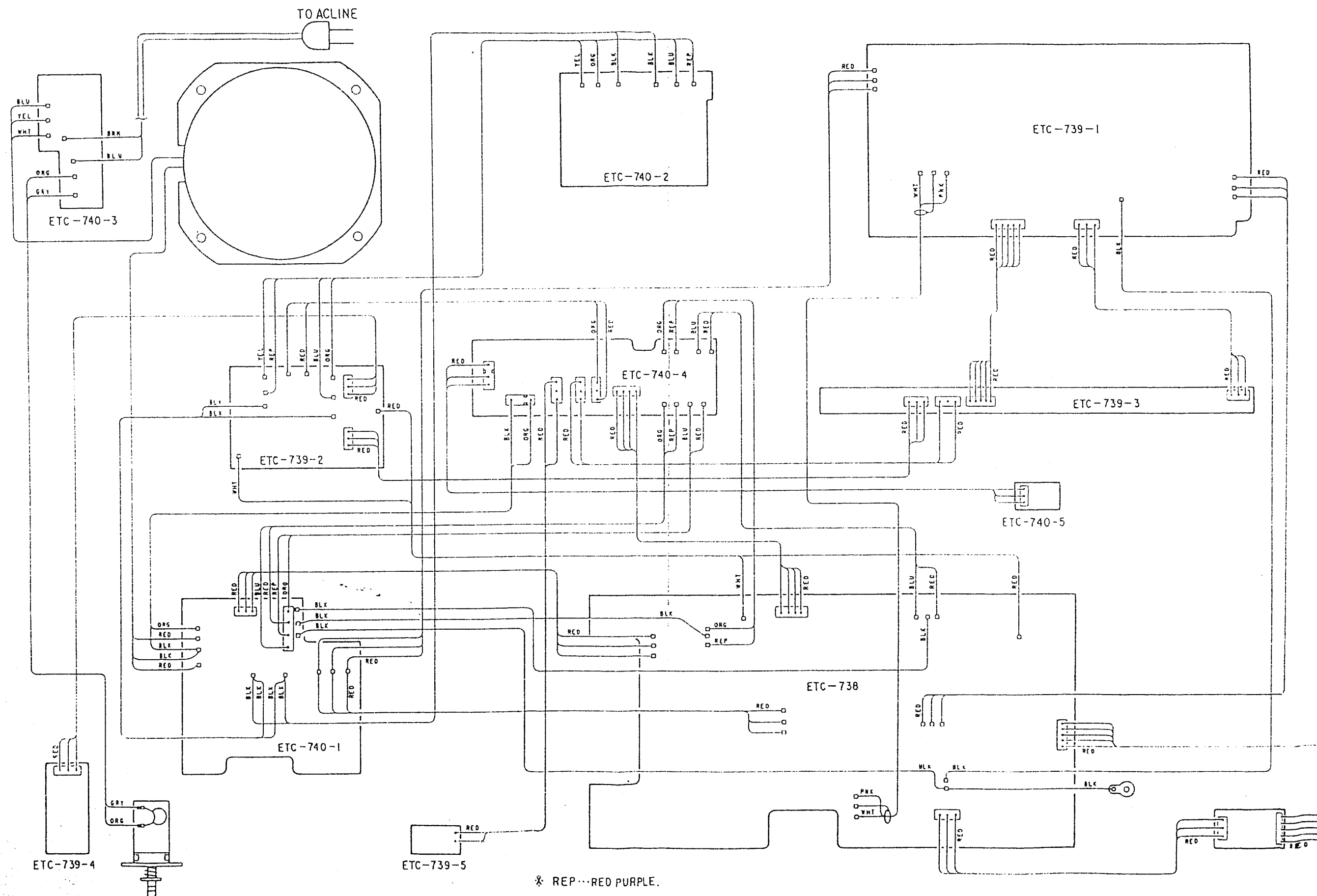
ETC0738 TONE & POWER UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
TR221, 222	2750046008	2SK170(BL)/(V)OVGS FET
IC301 ~304	2630257001	M-5218P (MITSUBISHI) IC
TR201, 202	2750046008	2SK170(BL)/(V)OVGS FET
TR203 ~206	2730235020	2SC1841(E/F) TRANSISTOR
TR207 ~210	2710185006	2SA949(O)/(Y) TRANSISTOR
TR211 ~214	2730307000	2SC2229(O)/(Y) TRANSISTOR
TR215, 216	2710185006	2SA949(O)/(Y) TRANSISTOR
TR301, 302	2730198015	2SC1815(BL) TRANSISTOR
TR303, 304	2730307000	2SC2229(O)/(Y) TRANSISTOR
TR305, 306	2710185006	2SA949(O)/(Y) TRANSISTOR
TR307, 308	2730199027	2SC2238(Y)/(O) TRANSISTOR
TR309, 310	2710104029	2SA968(Y)/(O) TRANSISTOR
D205 ~210	2760049008	1S2076 DIODE
D301 ~304	2760253001	HZ15-2 ZENER
D305 ~308	2760049008	1S2076 DIODE
D309, 310	2760388002	MV-1YH DIODE
D311, 312	2760236031	HZ5C-1 ZENER
D313 ~316	2760052053	HZ11B-1 ZENER
D317 ~336	2760049008	1S2076 DIODE
D355 ~358	2760049008	1S2076 DIODE
RESISTORS (not included Carbon Film $\pm 5\%$, 1/4W Type)		
R209, 210	2420203003	10Mohm $\pm 10\%$ 1/4W CARBON COMPOSIT
RF211 ~212	2412314023	470ohm $\pm 5\%$ 1/4W CARBON (NB)
RF221 ~222	2412314023	470ohm $\pm 5\%$ 1/4W CARBON (NB)
RF231 ~232	2412313037	200ohm $\pm 5\%$ 1/4W CARBON (FR)
RF243 ~244	2412313003	100ohm $\pm 5\%$ 1/4W CARBON (FR)
RF239 ~240	2410053025	12ohm $\pm 5\%$ 1W METAL OXIDE (NB)
RF241 ~244	2412313037	220ohm $\pm 5\%$ 1/4W CARBON (FR)
RF245 ~248	2412321016	22ohm $\pm 5\%$ 1/4W CARBON (NB)
RF301 ~304	2410103028	27kohm $\pm 5\%$ 2W METAL OXIDE (NB)
RF305 ~308	2412321045	220ohm $\pm 5\%$ 1/4W CARBON (NB)
RF309 ~310	2412321003	1kohm $\pm 5\%$ 1/4W CARBON (NB)

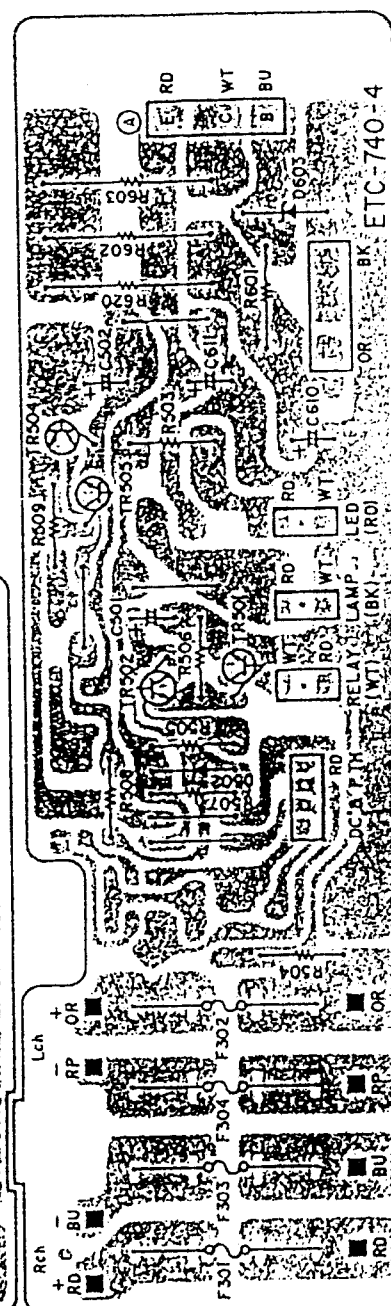
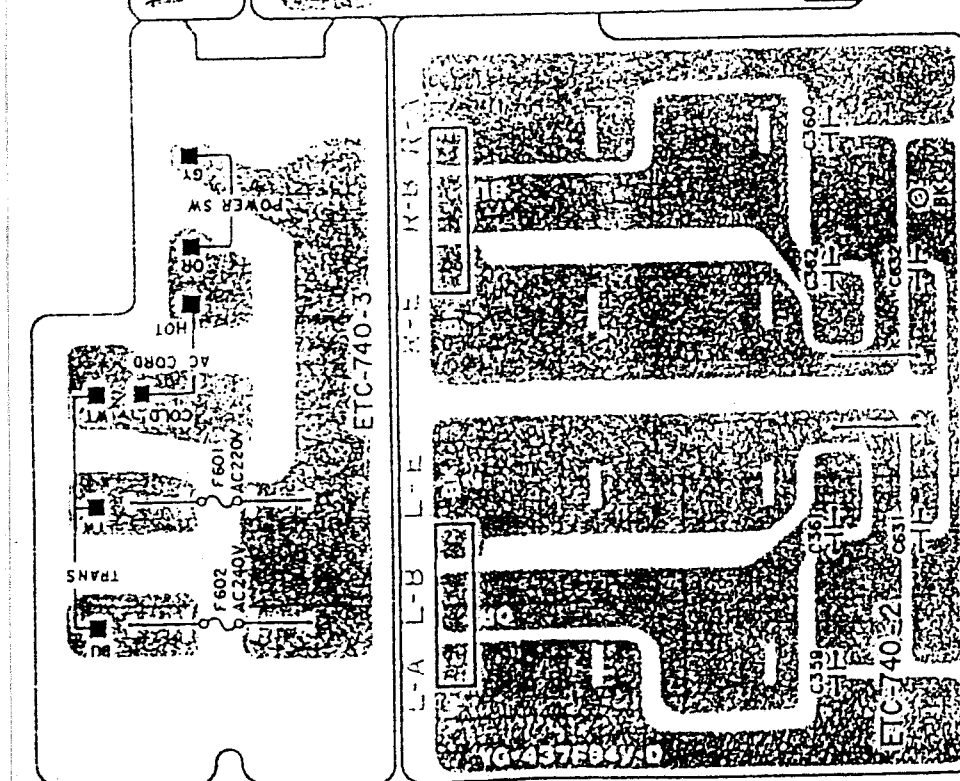
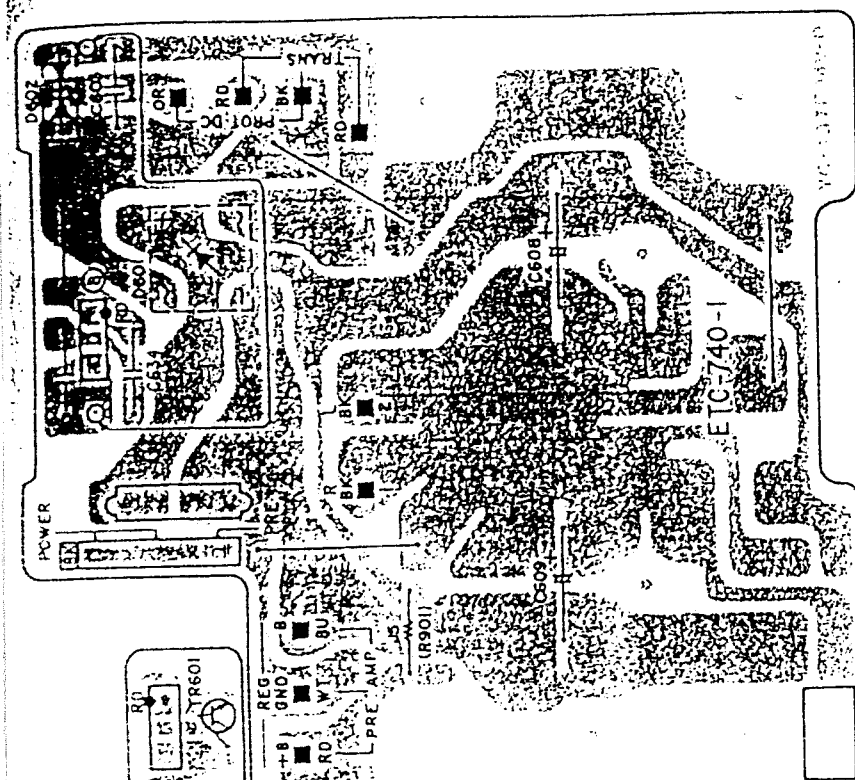
CONNECTION DIAGRAM

• PMA-777

This figure is E2 version



• PMA-757
ETC0740B P.S. & PROTECT UNIT



ETC0740B P.S. & PROTECT UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
TR501	2730235020	2SC1841(F)/(E) TRANSISTOR
TR502	2730269038	2SC1685(R) TRANSISTOR
TR504, 505	2730269038	2SC1685(R) TRANSISTOR
TR601	2740088018	2SD1406(Y)/(GR) TRANSISTOR
D502	2760049008	1S2076 DIODE
D601	2760356005	D5FB20(4001) DIODE
D602	2760151006	108C-1 DIODE
D603	2760256008	HZ-16-2 ZENER
RESISTORS		
R503	2412096008	1.5k ohm $\pm 5\%$ 1/4W CARBON
R504	2412369081	330 ohm $\pm 5\%$ 1/4W CARBON (NB)
R505	2412116001	10k ohm $\pm 5\%$ 1/4W CARBON
R506	2412108006	4.7k ohm $\pm 5\%$ 1/4W CARBON
R507	2412164008	1M ohm $\pm 5\%$ 1/4W CARBON
R508	2412036000	4.7 ohm $\pm 5\%$ 1/4W CARBON
R509	2412116001	10k ohm $\pm 5\%$ 1/4W CARBON
R601	2410205008	6.8k ohm $\pm 5\%$ 1/2W CARBON COMPOSIT
HR602	2440086022	100 ohm $\pm 5\%$ 2W METAL OXIDE (NB)
HR603	2440079026	27 ohm $\pm 5\%$ 2W METAL OXIDE (NB)
HR620	2440086022	100 ohm $\pm 5\%$ 2W METAL OXIDE (NB)
CAPACITORS		
C359 ~362	2531025002	0.022 μ F +80,-20% 50V CERAMIC
C501	2544009002	47 μ F $\pm 20\%$ 10V ELECTROLYTIC
C502	2544161034	330 μ F $\pm 20\%$ 6.3V ELECTROLYTIC
C603	2531053003	0.01 μ F +100,-0% 500V CERAMIC
C608, 609	2546063004	15000 μ F/15000 μ F 63V ELECTROLYTIC
C610	2544063035	100 μ F $\pm 20\%$ 80V ELECTROLYTIC
C611	2544089006	1 μ F $\pm 20\%$ 50V ELECTROLYTIC
C633, 634	2531053003	0.01 μ F +100,-10% 500V CERAMIC
C631, 632	2531024003	0.01 μ F +80,-20% 50V CERAMIC
FUSE		
F301 ~304	2061040036	FUSE (F5A) SEMKO MINI
F601	2061015074	FUSE (T3.15A) SEMKO MINI
OTHER PARTS		
	2221092109	P.W. BOARD
	EP-5667H1	TERMINAL PIN USED 26
	2050008120	JUMPER WIRE P=10mm USED 5
	2050185054	5P WIRE HOLDER
	2050185038	3P WIRE HOLDER
	2050190036	3PIN CONNECTOR BASE USED 3
	2050122033	3P CONNECTOR PIN ASS'Y USED 2
	2050087039	3P TERMINAL USED 3
	2090052008	JUMPER D1.6 L=20mm USED 3
	2034163063	3P CONNECTOR CORD
	2034193046	3P CONNECTOR CORD
	4120952102	CONDENSER BRACKET
	2050144008	8P TERMINAL
	2050178003	EARTH PLATE
	4730354019	TAPPING SCREW (2) 3x8 USED 4
	5130934009	FUSE LABEL

Ref. No.	Part No.	Part Name & Descriptions
	2020022008	FUSE HOLDER USED 10 (DELETE)
	2030226027	1P CONTACT ASS'Y (DELETE)
(R901)J5	2050008120	JUMPER IWRE P=10mm

ETC0740M E1 for Asia
(Same as ETC0740B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C631, 632	2531024003	0.01 μ F +80,-20% 50V CERAMIC (DELETE)
C633, 634	2531053003	0.01 μ F +100,-0% 500V CERAMIC (DELETE)
C359 ~362	2531025002	0.022 μ F +80,-20% 50V CERAMIC (DELETE)
OTHER PARTS		
	5130934009	FUSE LABEL (DELETE)
	2020022008	FUSE HOLDER USED 8 (CHANGE)
	2061015087	FUSE (4A) (DELETE)
	2030226027	1P CONTACT ASS'Y (DELETE)

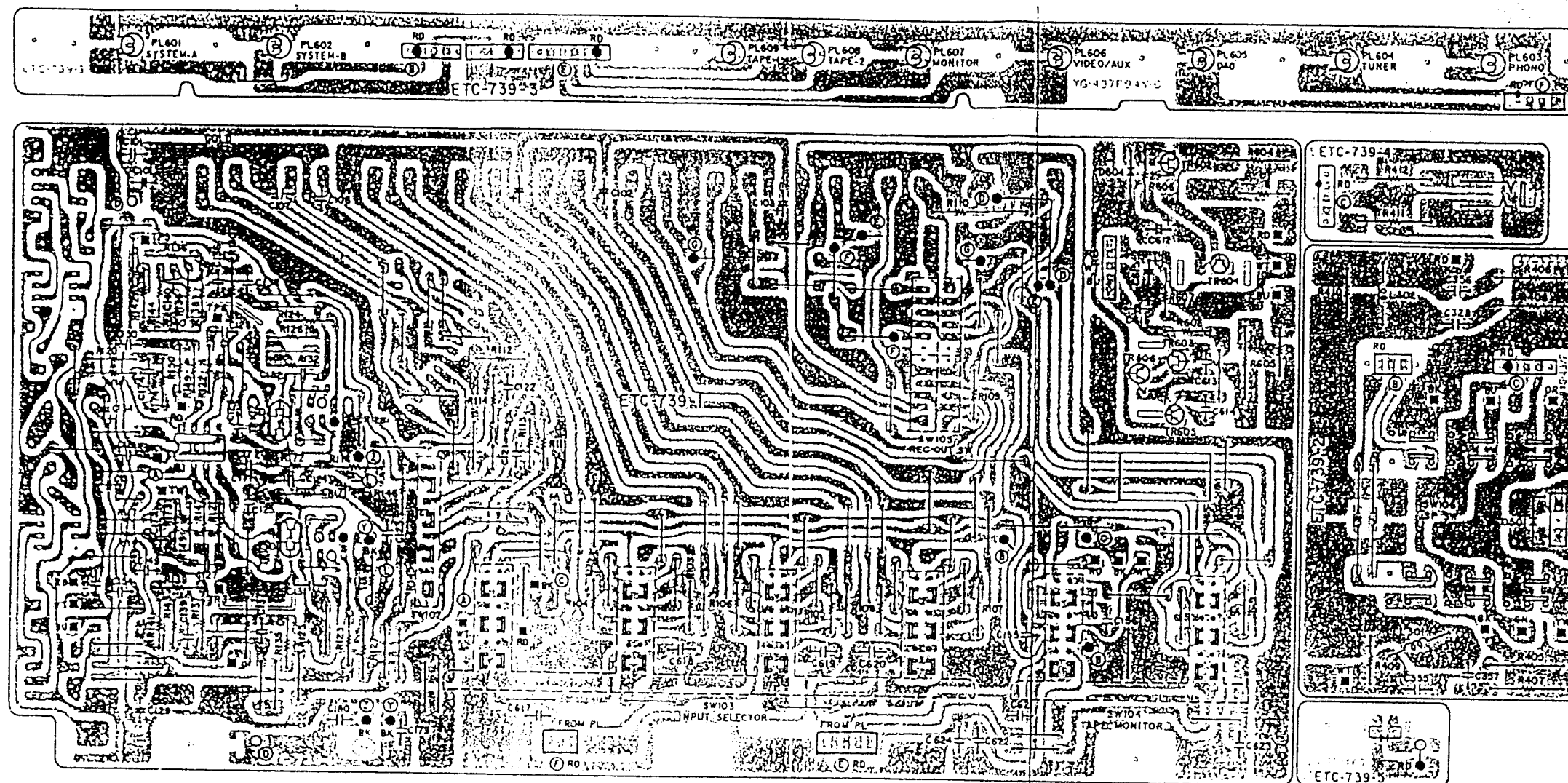
ETC0740N E3 for U.S.A., & EC for Canada
(Same as ETC0740B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C633, 634	2531053003	0.01 μ F +100,-0% 500V CERAMIC (DELETE)
C631, 632	2531024003	0.01 μ F +80,-20% 50V CERAMIC (DELETE)
C359 ~362	2531025002	0.022 μ F +80,-20% 50V CERAMIC (DELETE)
OTHER PARTS		
F301 ~304	2061046027	FUSE 5A (UL) (CHANGE)
HR601	2061046001	FUSE 6.3A (UL) (CHANGE)
	2030226027	1P CONTACT ASS'Y (DELETE)
(R901)J5	2412321032	4.7 ohm $\pm 5\%$ 1/4W CARBON (NB)
	5130854037	FUSE LABEL (ADD)
	5130854011	FUSE LABEL USED 4 (ADD)

ETC0740P EA for Australia & EK for U.K.
(Same as ETC0740B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C633, 634	2531053003	0.01 μ F +100,-0% 500V CERAMIC (DELETE)
C631, 632	2531024003	0.01 μ F +80,-20% 50V CERAMIC (DELETE)
C359 ~362	2531025002	0.022 μ F +80,-20% 50V CERAMIC (DELETE)
OTHER PARTS		
F601	2030226027	1P CONTACT ASS'Y (DELETE)
F602	2061015087	FUSE (T.4A) MINISEMCO (DELETE)
	2061015087	FUSE (T.4A) MINISEMCO (ADD)

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ETC0739B INPUT & EQ. UNIT



ETC0739B INPUT & EQ. UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
IC101	2630081015	NJM4558DX (JRC) IC
TR101, 102	2750029025	2SK240(BL)/(V) FET
TR602, 603	2750043001	2SK381(BI)/(C) FET
TR604	2730236029	2SC2824(Y/O) TRANSISTOR
TR605	2710178039	2SA564A(R) TRANSISTOR
TR606	2710135027	2SA1184(Y/O) TRANSISTOR
D501	2760191008	W03C DIODE
D604	2760301005	HZ22-2 ZENER
RESISTORS		
R129, 130	2420203003	10M ohm $\pm 10\%$ 1/4W CARBON COMPOSIT

Ref. No.	Part No.	Part Name & Descriptions
AR133	2412321003	1K ohm $\pm 5\%$ 1/4W CARBON (NB)
AR405, 408	2440021029	22 ohm $\pm 5\%$ 1W METAL OXIDE (NB)
AR411	2440030023	120 ohm $\pm 5\%$ 1W METAL OXIDE (NB)
AR412	2440036027	290 ohm $\pm 5\%$ 1W METAL OXIDE (NB)
VR101, 102	EP.5462H1	SOLID VR 100 ohm
CAPACITORS		
C101	2544145005	0.47 μ F $\pm 20\%$ 50V ELECTROLYTIC
C121, 122	2531024003	0.01 μ F $\pm 80, -20\%$ 50V CERAMIC
C127, 128	2551121009	0.0068 μ F $\pm 5\%$ 50V PLASTIC FILM
C129	2544164031	220 μ F $\pm 20\%$ 25V ELECTROLYTIC

Ref. No.	Part No.	Part Name & Descriptions
C131, 132	2541010007	10 μ F $\pm 20\%$ 10V TANTALUM
C133, 134	2544146004	1 μ F $\pm 20\%$ 50V ELECTROLYTIC
C135, 136	2551121041	0.015 μ F $\pm 5\%$ 50V PLASTIC FILM
C137, 138	2551120000	0.001 μ F $\pm 5\%$ 50V PLASTIC FILM
C139, 140	2551122011	0.056 μ F $\pm 5\%$ 50V PLASTIC FILM
C149, 150	2551120097	0.0056 μ F $\pm 5\%$ 50V PLASTIC FILM
C153, 154	2531024003	0.01 μ F $\pm 80, -20\%$ 50V CERAMIC
C181	2531024003	0.01 μ F $\pm 80, -20\%$ 50V CERAMIC
C355, 356	2551121025	0.01 μ F $\pm 5\%$ 50V PLASTIC FILM

Ref. No.	Part No.	Part Name & Descriptions
C357, 358	2551121067	0.022 μ F $\pm 5\%$ 50V PLASTIC FILM
C612	2544153000	47 μ F $\pm 20\%$ 50V ELECTROLYTIC
C615, 616	2544146004	1 μ F $\pm 20\%$ 50V ELECTROLYTIC
C617 ~624	2531024003	0.01 μ F $\pm 80, -20\%$ 50V CERAMIC
SWITCHES		
SW102	2124330007	SLIDE SW (4-2) REMOTE CARTRIDGE
SW103	2124512003	4P PUSH SW INPUT SEL
SW104	2124422009	2P PUSH SW TAPE MONITOR
SW105	2124187001	SLIDE SW (4-4) REMOTE
SW106	2124510005	2P PUSH SW REC OUT SEL S.P.
OTHER PARTS		
LE501, L301, 302, PL601 ~609	2221091100	P.W. BOARD
	EP.5667H1	TERMINAL PIN USED 30
	2090008146	JUMPER WIRE P=5mm USED 5
	2090008133	JUMPER WIRE P=7.5mm USED 2
	2090008120	JUMPER WIRE P=10mm USED 100
	2090008117	JUMPER WIRE P=12.5mm USED 10
	3939154008	PR5552K-1 (RED) LED
	2350007007	INDUCTOR
	3930083000	PILOT LAMP 16V 0.04A USED 5
	4530022208	LAMP COVER (A) USED 7
RL501	4530023207	LAMP COVER (B) USED 1
	1220109007	BLIND SHEET
	4410412200	LED HOLDER
	2034197097	3P CONNECTOR CORD
	2034214019	3P CONNECTOR CORD
	2034185096	3P CONNECTOR CORD
	2034181074	3P CONNECTOR CORD
	2034181087	3P CONNECTOR CORD
	2038132016	5P CONNECTOR CORD
	2140037009	RELAY
	2048100009	HEADPHONE JACK
	2036084001	4P CONNECTOR BASE
	2040079002	6P CONNECTOR BASE USED 2
	4140240001	EARTH PLATE
	2048059008	DIN JACK (5P)
	4170043100	RADIATOR USED 2
	4730354019	TAPPING SCREW (2) 3x8 USED 2
	2050190036	3P NH CONNECTOR BASE USE 0 2
	2050190052	5P NH CONNECTOR BASE
	2050185038	3P WIRE HOLDER USED 7
	2050185054	5P WIRE HOLDER
	2030225073	1P CONTACT ASS'Y

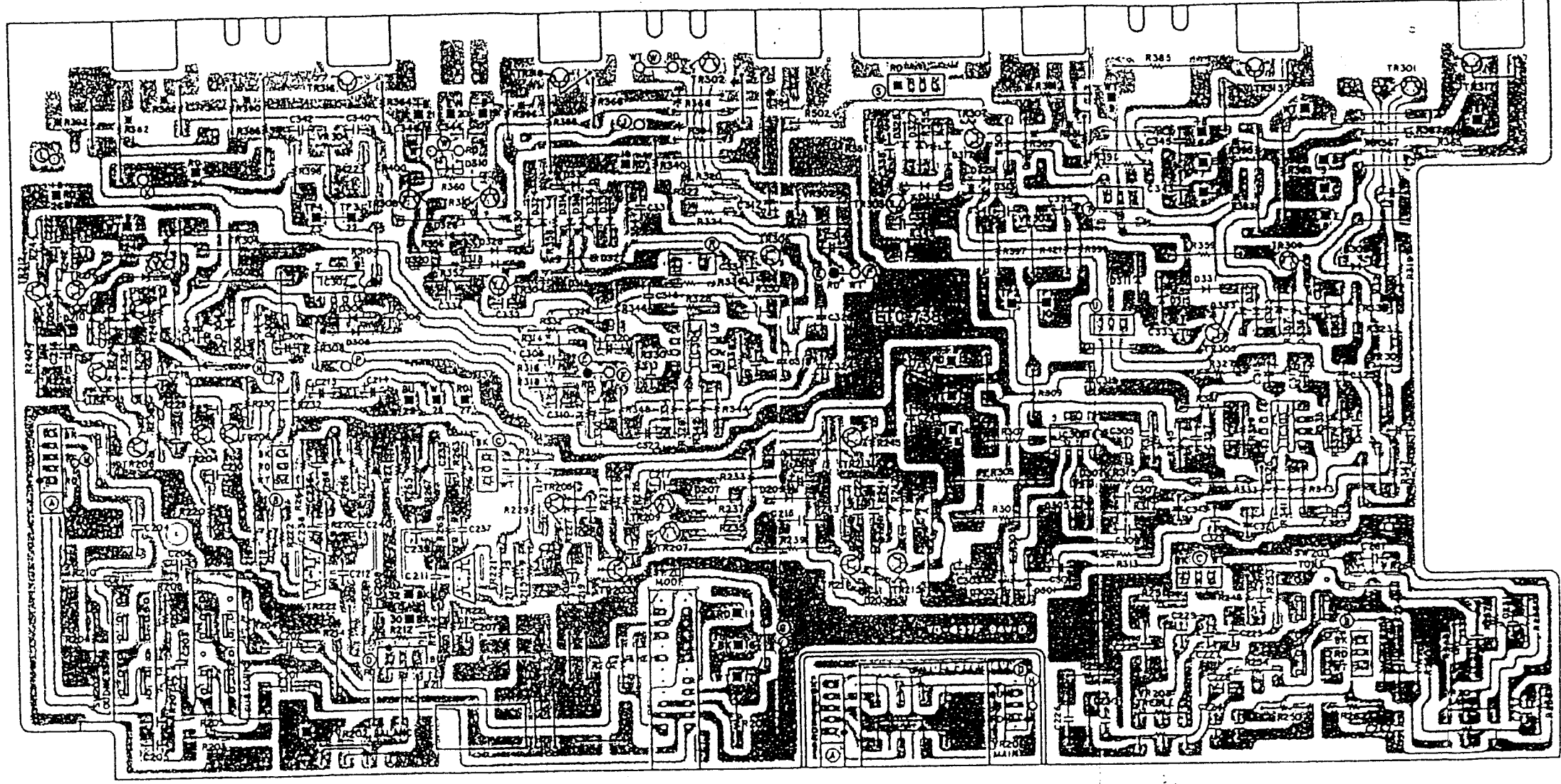
ETC0739N E3 for U.S.A. and EC for Canada
(Same as ETC0739B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
RESISTORS		
R109, 110	2412156003	470k ohm $\pm 5\%$ 1/4W CARBON (DELETE)
R171, 172	2090008120	JUMPER WIRE P=10mm (CHANGE)
R121, 122	2412090004	820 ohm $\pm 5\%$ 1/4W CARBON (DELETE)
R149, 150	2412068007	100 ohm $\pm 5\%$ 1/4W CARBON (DELETE)

ETC0738B TONE & POWER UNIT

NOTE: "*" parts not used for E2 model.

Ref. No.	Part No.	Part Name & Descriptions
111	2544146004	1μF ±20% 50V ELECTROLYTIC
126	2551120026	0.0015μF ±5% 50V PLASTIC FILM
130	2534482008	33pF ±5% 500V CERAMIC
131	2551121025	0.01μF ±5% 50V PLASTIC FILM
134	2561030070	0.1μF ±5% 100V PLASTIC FILM
139		
142		
143		
146		
SWITCHES		
W201	2120221000	ROTARY SWITCH MODE
W202	2124511004	2P PUSH SWITCH LOUD, SUB
W203	2124462001	1P PUSH SWITCH DIRECT
OTHER PARTS		
2221090101	P.W. BOARD	
EP-5667H1	TERMINAL PIN USED 40	
2090008120	JUMPER WIRE P-10mm USED 50	
2030230039	1P CONNECTOR	
2050185038	3P WIRE HOLDER USED 6	
2050185041	4P WIRE HOLDER	
2050185054	5P WIRE HOLDER USED 2	
4711303018	3x6 CPS USED 2	
4756006008	3N USED 2	



ETC0738M E1 for Asia
(Same as ETC0738B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
D313 ~316	2760236031	HZ5C-1 ZENER (ADD)
RESISTORS		
R219, 220	2412065000	75 ohm ±5% 1/4W CARBON (CHANGE)
R361, 362, 367	2412321032	47 ohm ±5% 1/4W CARBON (NB) (ADD)
R381, 384, 388, 390	2412025003	22 ohm ±5% 1/4W METAL (NB) (ADD)
	2412241016	22 ohm ±5% 1/4W CARBON (NB) (ADD)

ETC0738N E3 for U.S.A., and EC for Canada
(Same as ETC0738B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
D313 ~316	2760236031	HZ5C-1 ZENER (ADD)
RESISTORS		
R219, 220	2412065000	75 ohm ±5% 1/4W CARBON (CHANGE)
R361, 362, 367	2412321032	47 ohm ±5% 1/4W CARBON (NB) (ADD)
R381, 384, 388, 390	2412025003	22 ohm ±5% 1/4W METAL (NB) (ADD)
	2412241016	22 ohm ±5% 1/4W CARBON (NB) (ADD)
CAPACITORS		
C241, 243	2544203002	1μF ±20% 160V ELECTROLYTIC (CHANGE)

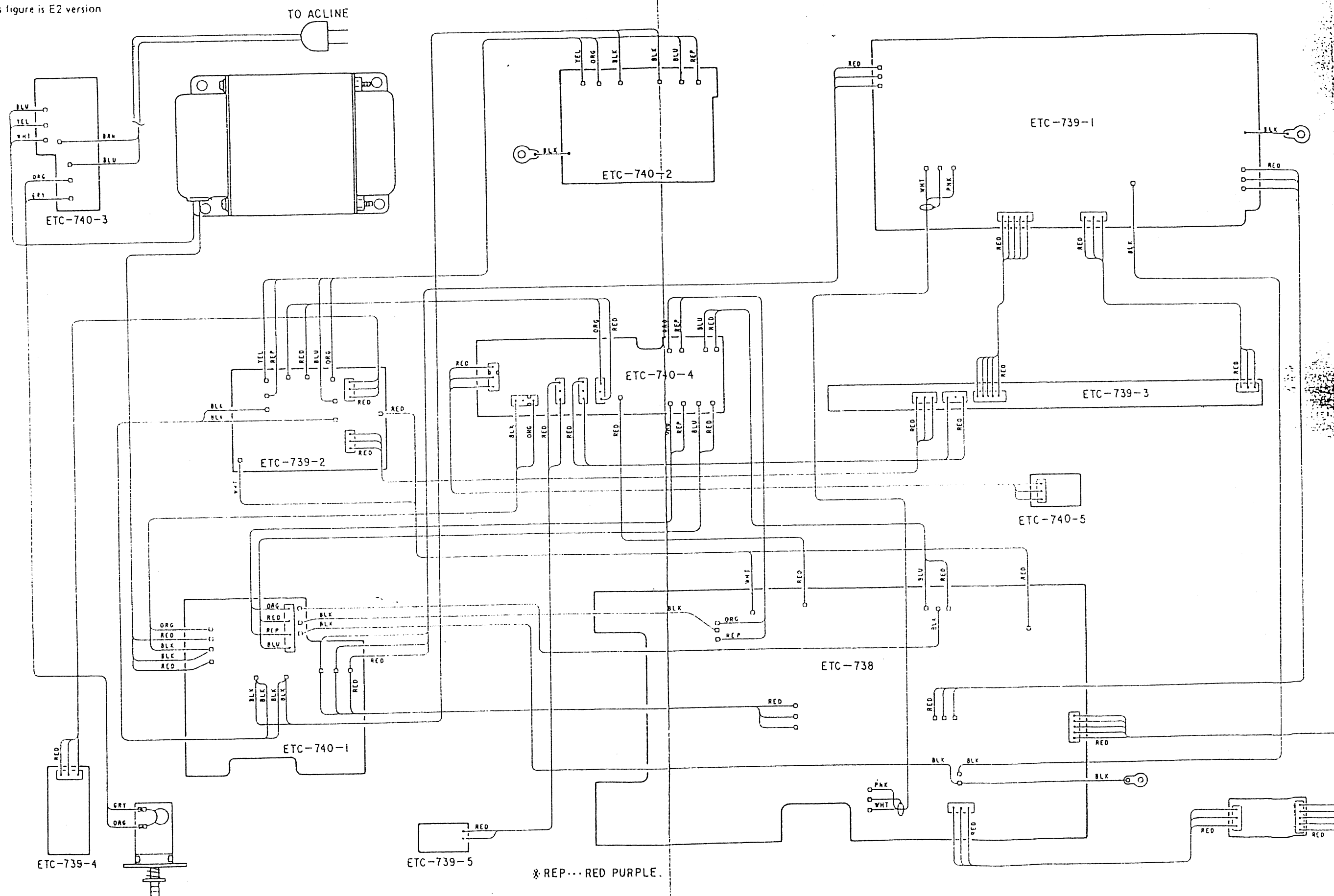
ETC0738P EA for Australia and EK for U.K.
(Same as ETC0738B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
D313 ~316	2760236031	HZ5C-1 ZENER (ADD)
RESISTORS		
R219, 220	2412065000	75 ohm ±5% 1/4W CARBON (CHANGE)
R361, 362, 367	2412321032	47 ohm ±5% 1/4W CARBON (NB) (ADD)
R381, 384, 388, 390	2412025003	22 ohm ±5% 1/4W METAL (NB) (ADD)
	2412241016	22 ohm ±5% 1/4W CARBON (NB) (ADD)

CONNECTION DIAGRAM

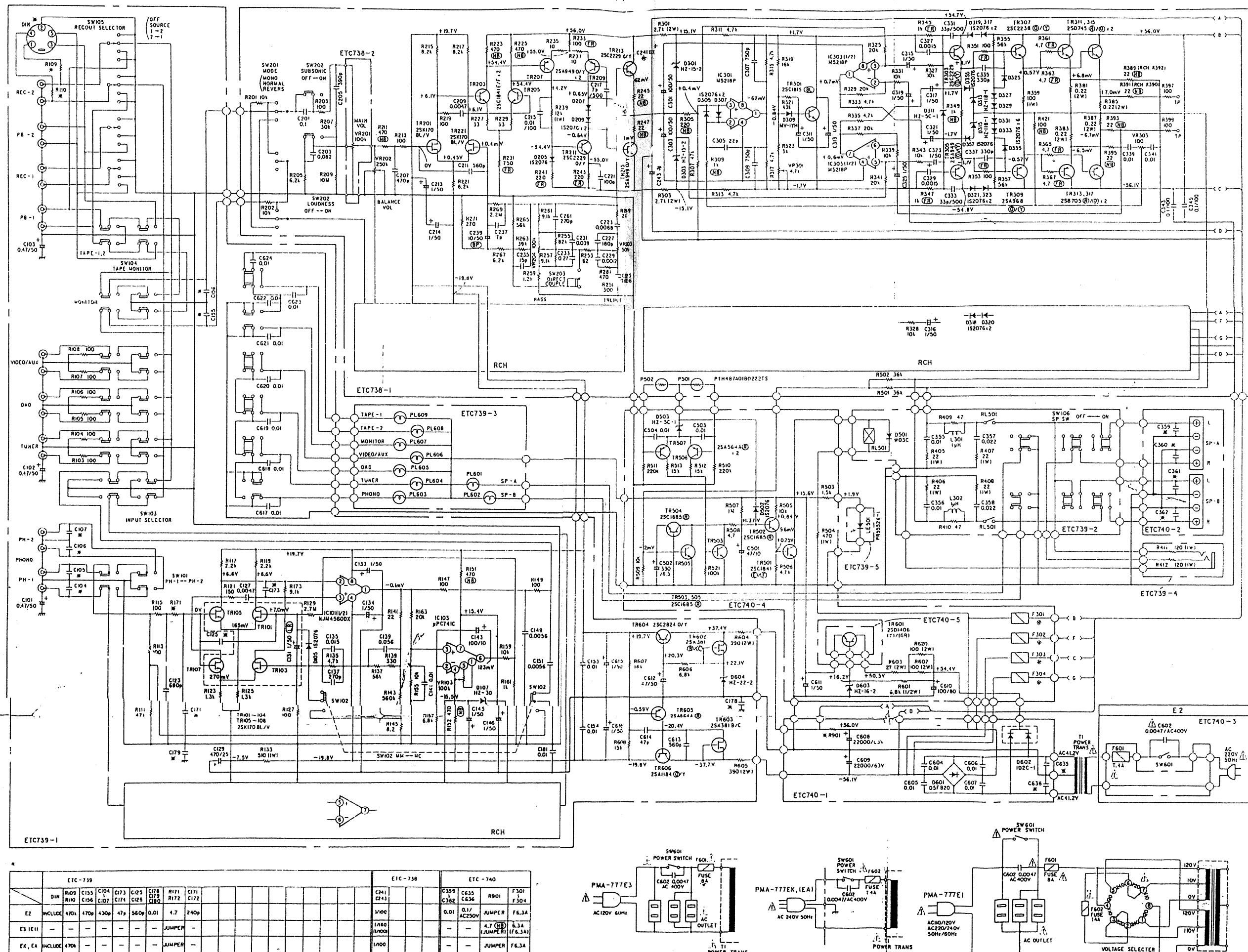
• PMA-757

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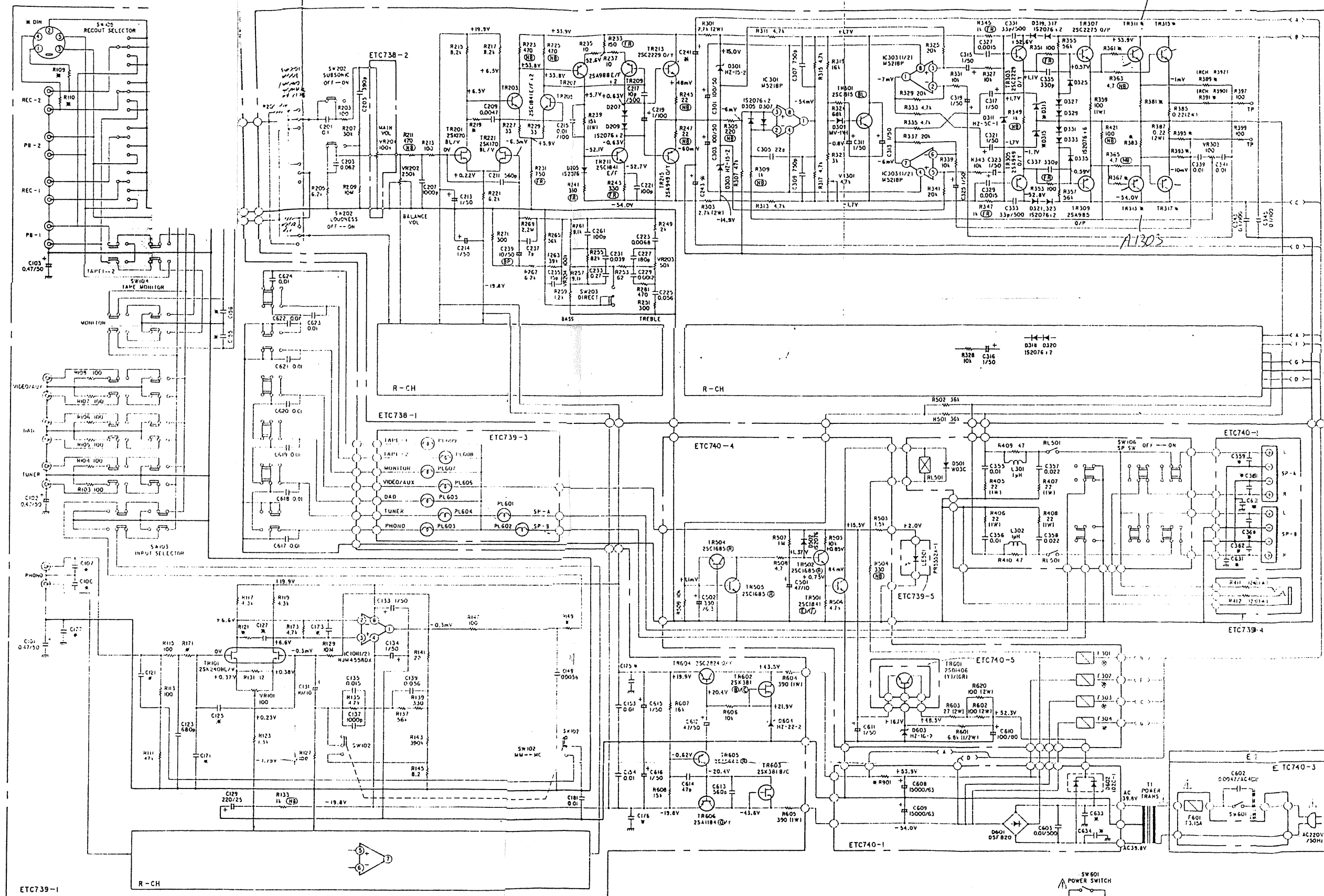


PMA-777 WIRING DIAGRAM

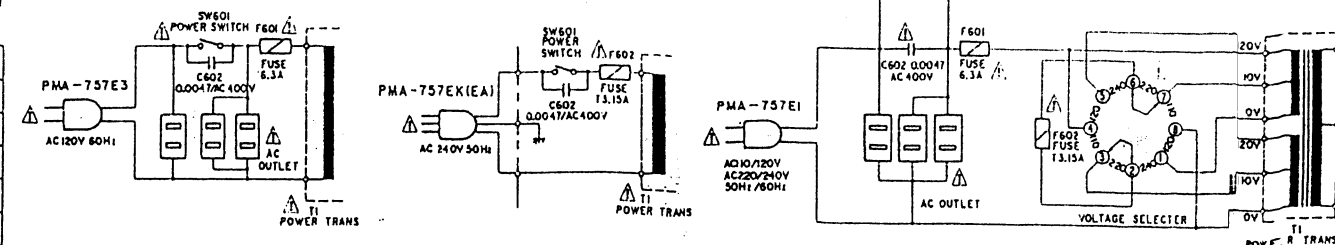
Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.



NOTES
ALL RESISTANCE VALUES IN OHM K = 1,000 OHM M = 1,000,000 OHM
ALL CAPACITANCE VALUES IN PPF = 100 PPF M = 1,000,000 PPF



	ETC-739																	ETC-738																	ETC-740						
	DIN	R109 R110	C155 C156	C106 C107	C173 C174	C123 C126	C177	R171 C172	C121 C122	R121 R122	C127 C118				C175	C176	R149 R150	C241 C243	R219 R220	OJ13 OJ36	R181 XUMPER	R181 XUMPER	R181 XUMPER	XMT XMT	TR311 TR312	TR315 TR316	TR313 TR314	TR317 TR318	C359 C362	C631 C632	C633 C634	R901	F301 F304								
I7	INCLUDE	470*	470*	330*	100*	360*	DOOR?	4.7	240*	0.01	—	0.0068	—	—	120*	150*	200*	V/100	240	DELETE	JUMPER	DELETE	DELETE	DELETE	DELETE	25C1384 R/O	25A1303 D.	25A1303 D.	—	—	—	—	—	—							
E3_EC	—	—	—	—	—	—	—	JUMPER	—	—	—	—	—	—	—	—	100	V/160	75	HZSC-V	22 (NB)	22 (NB)	3.22/ZW	4.7 (NB)	25H1110 R/O	25G1110 R/O	25B8-R/R	25B8-R/R	—	—	—	—	—	AT	FA						
E1_E A	INCLUDE	470*	—	—	—	—	—	JUMPER	—	—	—	—	—	—	—	—	100	V/100	75	HZSC-V	22 (NB)	22 (NB)	3.22/ZW	4.7 (NB)	25H1110 R/O	25G1110 R/O	25B8-R/R	25B8-R/R	—	—	—	—	—	JUMPER	FA						
E1_L + V	—	—	—	—	—	—	—	JUMPER	—	—	—	—	—	—	—	—	100	V/100	75	HZSC-V	22 (NB)	22 (NB)	3.22/ZW	4.7 (NB)	25H1110 R/O	25G1110 R/O	25B8-R/R	25B8-R/R	—	—	—	—	—	JUMPER	FA						

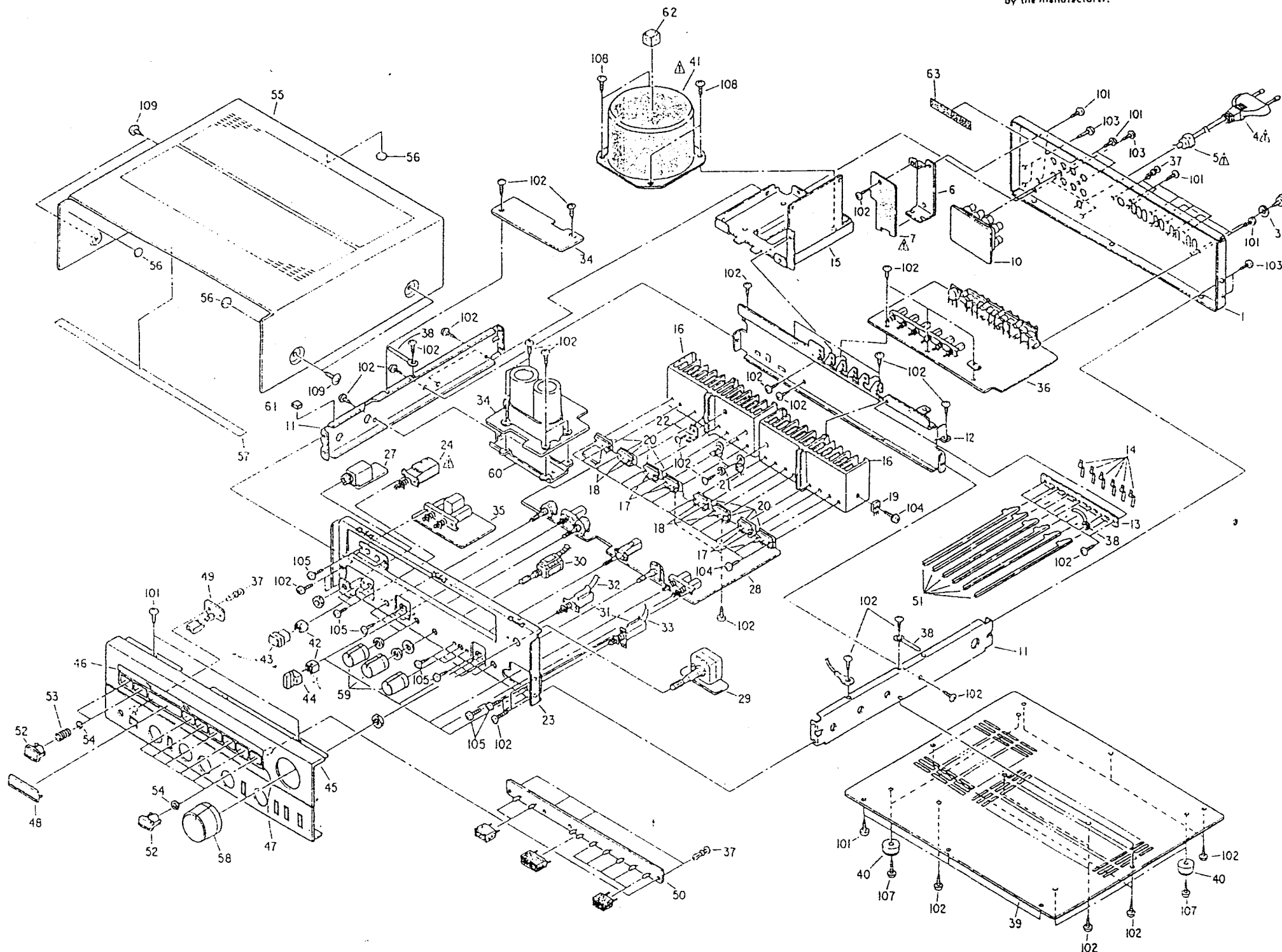


NOTES:
ALL RESISTANCE VALUES IN OHM, K = 1,000 OHM, M = 1,000,000 OHM
ALL CAPACITANCE VALUES IN MICROFARAD, P = MICRO-MICRO FARAD
EVERY VOLTAGES AND CURRENTS IS MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

EXPLODED VIEW OF CHASSIS AND CABINET

• PMA-777

⚠ Means important safety item, which must be followed when necessary, by a part specified or meeting the requirements by the manufacturer.



Note: 1. See addendum list below for the parts with asterisk (*) on the Ref. No. and the other parts not included in this list.
 2. The list is prepared based on E2 Silver Version.
 3. * Marked not included EXPLODED VIEW.
 4. o Marked same as PMA-757E2.

EXPLODED VIEW OF PARTS LIST

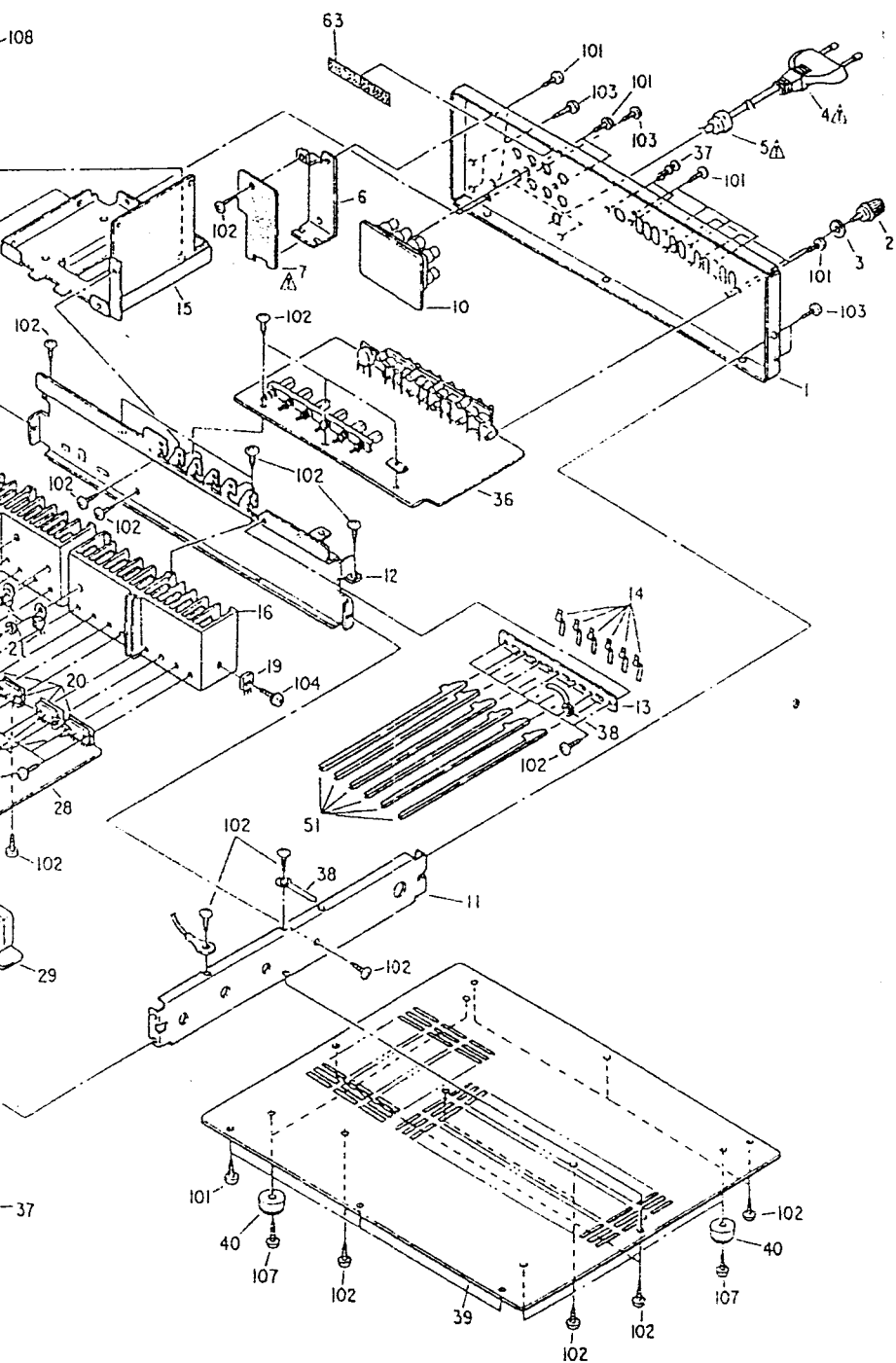
Ref. No.	Part No.	Part Name & Descriptions
* 1	1050626307	BACK PANEL
* 2	2050071016	TERMINAL ASS'Y
* 3	4770018001	WASHER (P-87)
* 4	4410455005	PWB BRACKET
* 5	5130716022	FTZ LABEL
* 6	5138253009	APPROVAL MARK
* 7	ETC0740-2	SP TERMINAL UNIT
* 8	4120733606	SIDE CHASSIS
* 9	4110375317	MAIN CHASSIS
* 10	4410378108	SHEET
* 11	4630337000	SPRING
* 12	4110334206	TRANS CHASSIS ASS'Y
* 13	4170153401	POWER RADIATOR
* 14	2740102004	TRANSISTOR 2SD745(R/O)
* 15	2720073001	TRANSISTOR 2SB705(R/O)
* 16	2740088018	TRANSISTOR 2SD1406(Y)/(GR)
* 17	4150291008	INSULATING SHEET (S-27)
* 18	2760289004	POSISTOR (PTH487A018D222TS)
* 19	4410411104	PCB BRACKET
* 20	4110429302	FRONT CHASSIS
* 21	5138253009	PUSH SWITCH (FOR P/SW) WITH
* 22	4450033005	CAPACITOR (400PF 400VAC)
* 23	ETC0739-4	WIRE CLAMP BAND USED 36
* 24	ETC0739-4	HEADPHONE JACK UNIT
* 25	ETC0738-1	TONE & POWER UNIT

Ref. No.	Part No.	Part Name & Descriptions
* 26	ETC0738-2	MAIN VR UNIT
* 27	2120222009	ROTARY REMOTE
* 28	2124484005	1P-PUSH REMOTE
* 29	4350052005	FLEXIBLE SLIDER (IMM-MC)
* 30	4350052021	FLEXIBLE SLIDER (PHONO 1-2)
* 31	ETC0740	P.S. & PROT. UNIT
* 32	ETC0739-2	SPEAKER SW UNIT
* 33	ETC0739-1	INPUT & EQ. UNIT
* 34	4770096007	PUSH RIVET
* 35	EP-6214	CORD HOLDER
* 36	1050450609	BOTTOM COVER
* 37	1040110001	FOOT
* 38	2336488007	POWER TRANSFORMER
* 39	1140056007	FLEXIBLE RING
* 40	1130515134	PUSH KNOB (A)
* 41	1130450118	PUSH KNOB (B) ASS'Y
* 42	1441257000	FRONT PANEL ASS'Y
* 43	1430297013	WINDOW
* 44	1460556106	WINDOW PANEL
* 45	1441256001	ESC. PLATE
* 46	ETC0739-5	LED UNIT
* 47	ETC0739-3	LAMP UNIT
* 48	4121069007	CONNECTING BRACKET
* 49	1130415218	PUSH KNOB (C)
* 50	4630274011	SPRING
* 51	1220039012	SPACER
* 52	1020183100	TOP COVER

Ref. No.	Part No.	Part Name & Descriptions
* 53	1040034006	STOPPER
* 54	1220069008	SPACER
* 55	1120415011	KNOB (A)
* 56	1120416010	KNOB (B)
* 57	4120952102	CONDENSER BRACKET
* 58	4610223024	RUBBER SHEET
* 59	4610223011	RUBBER SHEET
* 60	1220069066	SPACER
* 61		
* 62		
* 63		
* 64		
* 65		
* 66		
* 67		
* 68		
* 69		
* 70		
PACKING & ACCESSORIES (not included EXPLODED VIEW)		
* a.	5040084007	SET COVER
* b.	5030456001	CUSHION
* c.	5111253107	INST. MANUAL
* d.	5139111001	COLOR LABEL (GOLD)
* e.	5130795009	CONTROL CABLE
* f.	5010916037	CARTON CASE

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
SCREWS & NUT			
* 101	4730354035	TAPPING SCREW (2) 3x8 (BLACK)	22
* 102	4730354019	TAPPING SCREW (2) 3x8	33
* 103	4770064107	FIXING SCREW	6
* 104	4700011023	PAN SCREW WITH W. SPW 3x10	17
* 105	4711303018	PAN SCREW 3x6	13
* 106	4730804035	TAPPING SCREW (2) 3x14	4
* 107	4700031016	TAPPING SCREW WITH TWB 4x10	4
* 108	4734801005	TAPPING SCREW (TRUS) 4x8	4
* 109			
* 110			
* 111			
* 112			

⚠ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.



Part Name & Descriptions	Ref. No.	Part No.	Part Name & Descriptions	Qty.
COPPER RACER TUB (A) TUB (B) CONDENSER BRACKET RUBBER SHEET RUBBER SHEET RACER	SCREWS & NUT			
	o * 101	4730354035	TAPPING SCREW (2) 3x8 (BLACK)	22
	o 102	4730354019	TAPPING SCREW (2) 3x8	33
	o 103	4770064107	FIXING SCREW	6
	104	4700011023	PAN SCREW WITH W. SPW 3x10	17
	o 105	4711303018	PAN SCREW 3x6	13
	o 107	4730804035	TAPPING SCREW (2) 3x14	4
	o 108	4700031016	TAPPING SCREW WITH TWB 4x10	4
	o * 109	4734801005	TAPPING SCREW (TRUS) 4x8	4
	110			
	111			
	112			
(not included EXPLODED VIEW)				
TOP COVER CUSHION INST. MANUAL COLOR LABEL (GOLD) CONTROL CARD CAUTION CASE				

ADDENDUM LIST

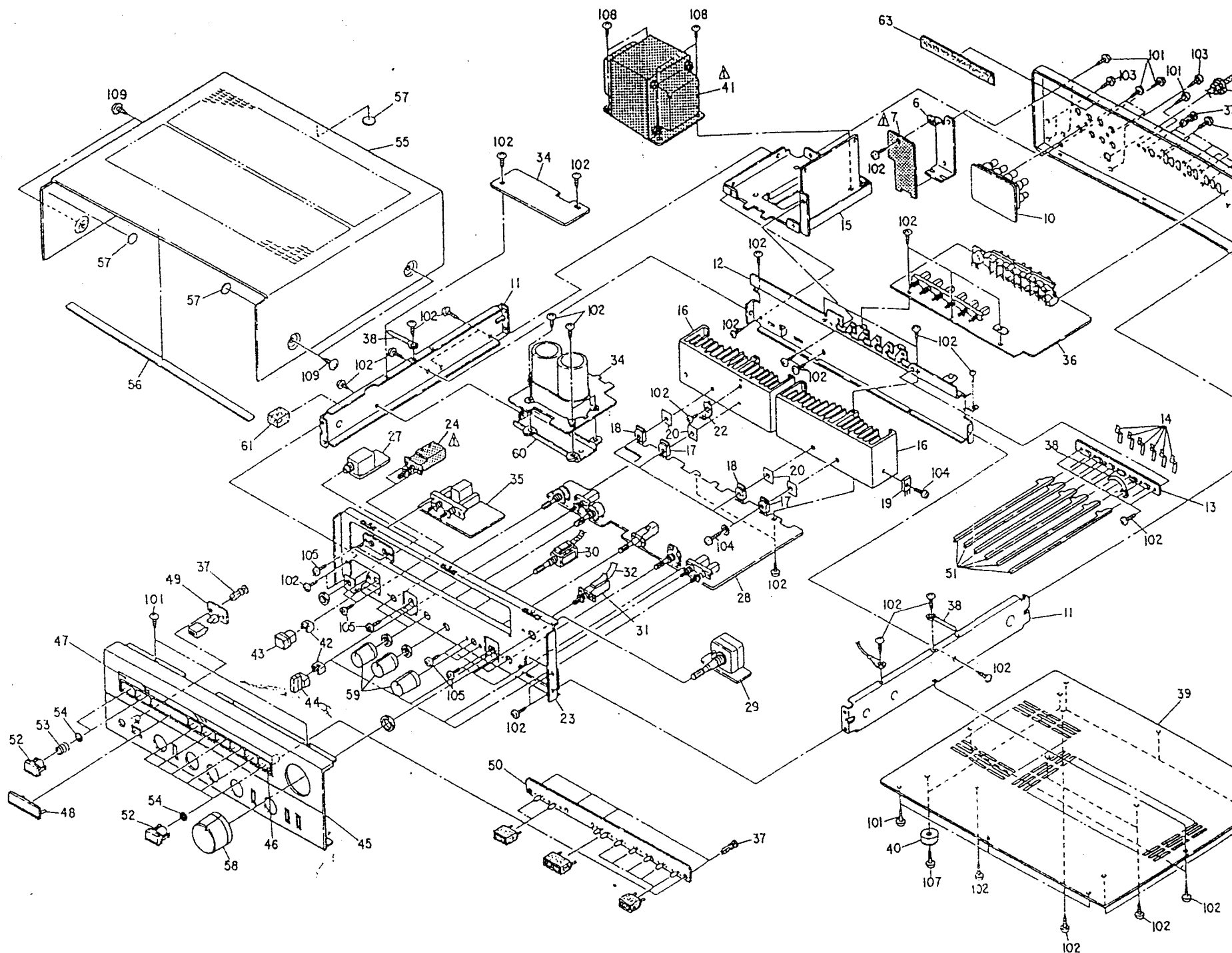
Ref. No.	Part Name & Descriptions	Part No.					
		E1 for Asia		E3 for U.S.A.		EA for Australia	EK for U.K.
		Gold Version	Black Version	Gold Version	Black Version	Gold Version	Black Version
1	BACK PANEL	1059005000	1059005000	1059002003	1059002003	1050626307	1050626307
7	AC FUSE UNIT	—	—	ETC0740-E3	ETC0740-E3	ETC0740-F3	ETC0740-F3
*8	FTZ LABEL	—	—	—	—	—	—
*9	APPROVAL MARK	—	—	—	—	—	—
10	SP TERMINAL UNIT	ETC0740-D2	ETC0740-D2	ETC0740-E2	ETC0740-E2	ETC0740-F2	ETC0740-F2
27	HEADPHONE JACK UNIT	ETC0739-D4	ETC0739-D4	ETC0739-E4	ETC0739-E4	ETC0739-F4	ETC0739-F4
28	TOPE & POWER UNIT	ETC0738-D	ETC0738-D	ETC0738-E	ETC0738-E	ETC0738-F	ETC0738-F
29	MAIN VR UNIT	ETC0738-D2	ETC0738-D2	ETC0738-E2	ETC0738-E2	ETC0738-F2	ETC0738-F2
34	P.S. & PROT. UNIT	ETC0740-D	ETC0740-D	ETC0740-E	ETC0740-E	ETC0740-F1	ETC0740-F1
35	SPEAKER SW UNIT	ETC0739-D2	ETC0739-D2	ETC0739-E2	ETC0739-E2	ETC0739-F2	ETC0739-F2
36	INPUT & EQ. UNIT	ETC0739-D1	ETC0739-D1	ETC0739-E1	ETC0739-E1	ETC0739-F1	ETC0739-F1
37	PUSH RIVET	—	—	—	—	4770066007	4770066007
43	PUSH KNOB (A)	1130515124	1130515121	1130515134	1130515121	1130515134	1130515121
44	PUSH KNOB (B) ASS'Y	1130450118	1130636000	1130450118	1130636000	1130450118	1130636000
45	FRONT PANEL ASS'Y	1441257000	1441257026	1441257000	1441257026	1441257000	1441257026
48	ESC. PLATE	1441256001	1441256027	1441256001	1441256027	1441256001	1441256027
49	LED UNIT	ETC0739-D5	ETC0739-D5	ETC0739-E5	ETC0739-E5	ETC0739-F5	ETC0739-F5
50	LAMP UNIT	ETC0739-D3	ETC0739-D3	ETC0739-E3	ETC0739-E3	ETC0739-F3	ETC0739-F3
52	PUSH KNOB (C)	1130415218	1130415221	1130415218	1130415221	1130415218	1130415221
55	TOP COVER	1020183100	1020183016	1029001005	1029001018	1020183100	1020183016
58	KNOB (A)	1120415011	1120415024	1120415011	1120415024	1120415011	1120415024
59	KNOB (B)	1120416010	1120416023	1120416010	1120416023	1120416010	1120416023
64	CAPACITOR 0.01uF/50V	—	—	—	—	—	—
101	TAPPING SCREW (2) 3x8	4730354035(22)	4730354035(22)	4730354035(24)	4730354035(24)	4730354035(22)	4730354035(22)
109	TAPPING SCREW (TRUS) 4x8	4734801005(4)	4734454038(4)	4734801005(4)	4734454038(4)	4734801005(4)	4734454038(4)
150	PAN SCREW WITH S.W 3x8 BLACK	4700042005(4)	4700042005(4)	—	—	—	—
151	NUT M3	4756006008(2)	4756006008(2)	—	—	—	—
152	WASHER ø5 BLACK	—	—	4751006016(8)	4751006016(8)	—	—
153	TAPPING SCREW (TRUS) 4x20 BLACK	—	—	4734460035(8)	4734460035(8)	—	—
154	TOOTH WASHER ø3	—	—	—	—	4753001051(8)	4753001051(8)
155	JT LUG	—	—	—	—	2050003107(1)	2050003107(1)
156	TOOTH WASHER ø4	—	—	—	—	4753100004(8)	4753100004(8)
*205	FUSE LABEL	5130654062	5130654082	—	—	—	—
*206	FUSE LABEL	5130654075	5130654075	—	—	—	—
*207	VOLTAGE SELECTOR SWITCH	5130784000	5130784000	—	—	—	—
*208	FUSE LABEL	—	—	5139115007	5139115007	—	—
*209	FUSE LABEL	—	—	5130607019	5130607019	—	—
210	RUBBER SHEET	—	—	4610066139	4610066139	—	—
*211	DANGEROUS MARK	—	—	5138266009	5138266009	—	—
212	SERIAL NO. PLATE	—	—	5130885022	5130885022	—	—
213	RIVET	—	—	4770126016	4770126016	—	—
214	WOOD BOARD (R)	—	—	1011469008	1011469008	—	—
215	WOOD BOARD (L)	—	—	1011470000	1011470000	—	—
216	FELT SHEET	—	—	1240032015	1240032015	—	—
*217	INDICATION SHEET	—	—	5130784000	5130784000	—	—
*218	NOTICE SHEET	—	—	—	—	5130209006	—
*219	NOTICE SHEET	—	—	—	—	5130210008	—
220	VOLTAGE LABEL	—	—	—	—	5130362008	5130362008
221	BLIND SHEET	—	—	—	—	5130348006	5130348006
222	EARTH LABEL	—	—	—	—	5130140000	5130140000
223	CAUTION SHEET	—	—	—	—	—	5130364006
224	—	—	—	—	—	—	—
225	—	—	—	—	—	—	—
a	SET COVER	5040084007	5040084007	5058092049	5058092049	5040084007	5040084007
b	CUSHION	5030456001	5030456001	5039107005	5039107005	5030456001	5030456001
c	COLOR LABEL (GOLD)	5139111001	—	5139111001	—	5139111001	—
d	CONTROL CARD	—	—	—	—	—	—
e	CARTON CASE	5010916037	50109160	5019104002	5019104031	5010916066	5010916037
g	COLOR LABEL (BLACK)	—	5139111014	—	5139111014	—	5139111014
h	WARRANTY IN ENVELOPE	5158053108	5158053108	5158053108	5158053108	—	—
i	PROTECTOR SHEET	—	—	5040077056	5040077056	—	—
j	SAFETY INSTRUCTION	—	—	5111041005	5111041005	—	—
k	CAUTION PAPER	—	—	—	—	5130211007	—
l	IMPORTANT LABEL	—	—	—	—	—	513037

BLACK VERSION PARTS LIST (Same as SILVER VERSION except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
43	1130515121	PUSH KNOB (A)
44	1130636000	PUSH KNOB (B)
45	1441257026	FRONT PANEL ASS'Y
48	1441256027	ESC. PLATE
52	1130415221	PUSH KNOB (C)
55	1020183115	TOP COVER
58	1120415024	KNOB (A)
59	1120416023	KNOB (B)
100	4734454038	TAPPING SCREW (2) 4x8
d	5139111014	COLOR LABEL (BLACK)

EXPLODED VIEW OF CHASSIS AND CABINET
• PMA-757

Means important safety item, which when necessary, by a part specified or by the manufacturer.



Note: 1. See addendum list below for the parts with asterisk (*) on the Ref. No. and the other parts not included in this list.
2. The list is prepared based on E2 Silver Version.
3. * Marked not included EXPLODED VIEW.
4. o Marked same as PMA-777E2.

EXPLODED VIEW OF PARTS LIST

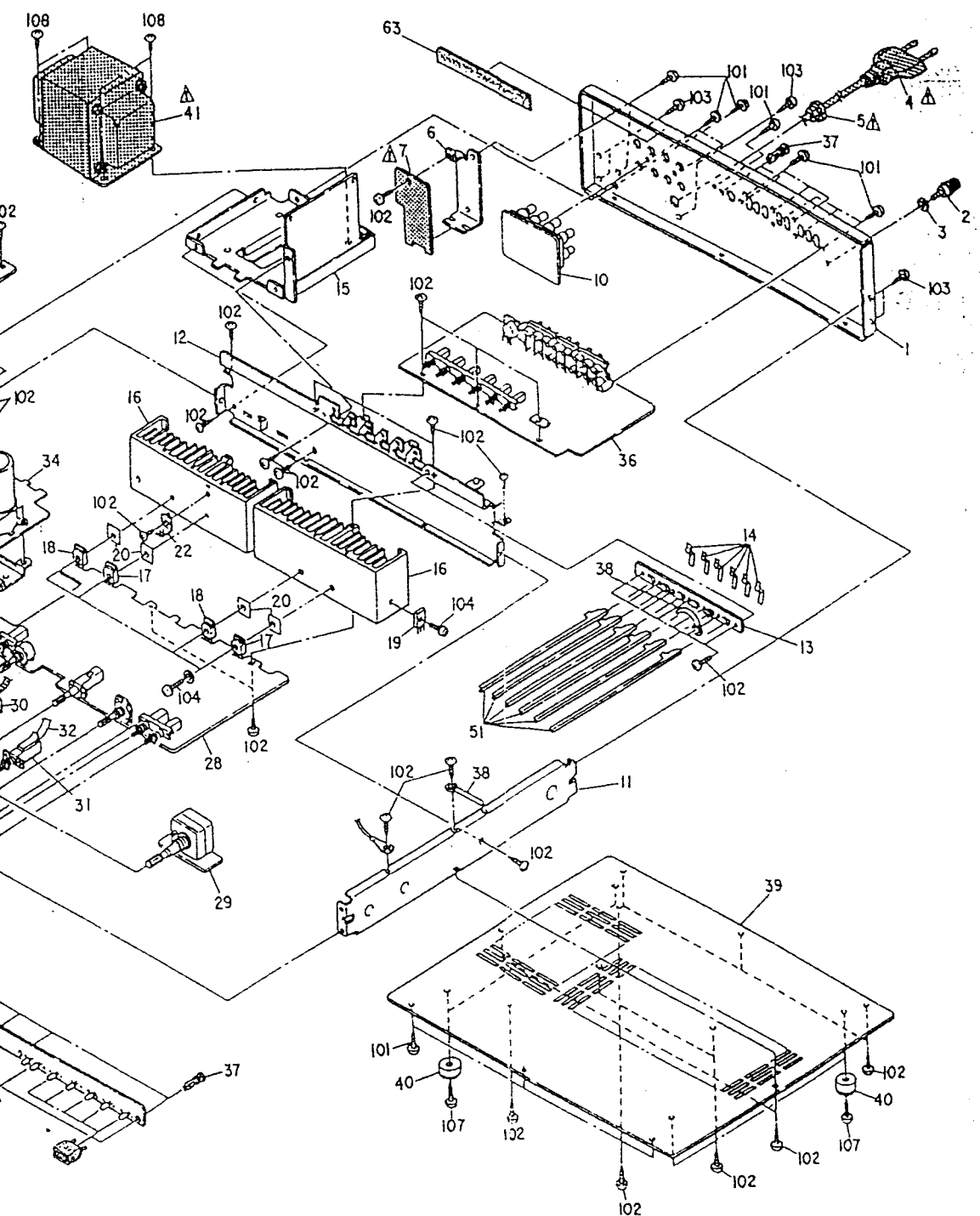
Ref. No.	Part No.	Part Name & Descriptions
*1	1050626310	BACK PANEL
*2	2050071016	TERMINAL ASS'Y
*3	4770018001	WASHER (P-87)
*4	4410455005	PWB BRACKET
*5	4410455005	PWB BRACKET
*6	5130716023	FTZ LABEL
*7	5138253009	APPROVAL MARK
*8	ETC0740-82	SP TERMINAL UNIT
*9	4120733606	SIDE CHASSIS
*10	4110375317	MAIN CHASSIS
*11	4410378108	SHEET
*12	4630337000	SPRING
*13	4110334206	TRANS CHASSIS ASS'Y
*14	4170156301	POWER RADIATOR
*15	2730305002	TRANSISTOR 2SC3284(O)/(Y)
*16	2710184007	TRANSISTOR 2SA1303(O)/(Y)
*17	2740088018	TRANSISTOR 2SD1406(Y)/(GR)
*18	4150234007	INSULATING SHEET
*19	4410411104	PCB BRACKET
*20	4110429302	FRONT CHASSIS
*21	4410411104	PCB BRACKET
*22	4110429302	FRONT CHASSIS
*23	4410411104	PCB BRACKET
*24	4110429302	FRONT CHASSIS
*25	4410411104	PCB BRACKET
*26	4450033005	WIRE CLAMP BAND USED 36
*27	ETC0739-B4	HEADPHONE JACK UNIT

Ref. No.	Part No.	Part Name & Descriptions
*28	ETC0738-B1	TOPE & POWER UNIT
*29	ETC0738-B2	MAIN VR UNIT
*30	2120222009	ROTARY REMOTE
*31	2124484005	1P PUSH REMOTE
*32	4350052005	FLEXIBLE SLIDER (MM, MC)
*33	ETC0740B	P.S. & PROT. UNIT
*34	ETC0739-B2	SPEAKER SW UNIT
*35	ETC0739-B1	INPUT & EQ. UNIT
*36	4770096007	PUSH RIVET
*37	EP-6214	CORD HOLDER USED 6
*38	1050450609	BOTTOM COVER
*39	1040110001	FOOT
*40	1140056007	FLEXIBLE RING
*41	1130515134	PUSH KNOB (A)
*42	1130450118	PUSH KNOB (B) ASS'Y
*43	1441257013	FRONT PANEL ASS'Y
*44	1430297013	WINDOW
*45	1460556106	WINDOW PANEL
*46	1441256014	ESC. PLATE
*47	ETC0739-B5	LED UNIT
*48	ETC0739-B3	LAMP UNIT
*49	4121069007	CONNECTING BRACKET
*50	1130415218	PUSH KNOB (C)
*51	4630274011	SPRING
*52	1220039012	SPACER

Ref. No.	Part No.	Part Name & Descriptions
*55	1020183100	TOP COVER
*56	1220069008	SPACER
*57	1040034006	STOPPER
*58	1120415011	KNOB (A)
*59	1120416010	KNOB (B)
*60	4120952102	CONDENSER BRACKET
*61	4610223024	RUBBER SHEET
*62	1220069066	SPACER
*63	1220069066	SPACER
*64	5040084007	SET COVER
*65	5030456001	CUSHION
*66	5111253107	INST. MANUAL
*67	5139111001	COLOR LABEL (GOLD)
*68	5138295009	CONTROL CARD
*69	5010916040	CARTON CASE
*70		

Ref. No.	Part No.	Part Name & Descriptions	Qty
SCREWS & NUT			
*101	4730354035	TAPPING SCREW (2) 3x8 (BLACK)	22
*102	4730354019	TAPPING SCREW (2) 3x8	33
*103	4770064107	FIXING SCREW	6
*104	4700012022	PAN SCREW WITH W. SPW 3x12	5
*105	4711303018	PAN SCREW 3x6	12
*106			
*107	4730804035	TAPPING SCREW (2) 3x14	4
*108	4700031016	TAPPING SCREW WITH TWB 4x10	4
*109	4734801005	TAPPING SCREW (TRUS) 4x8	4
*110			
*111			
*112			

△ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.



Part No.	Part Name & Descriptions
020183100	TOP COVER
020069008	SPACER
040034006	STOPPER
20415011	KNOB (A)
20416010	KNOB (B)
20952102	CONDENSER BRACKET
510223024	RUBBER SHEET
220069066	SPACER
ACCESSORIES (not included EXPLODED VIEW)	
040084007	SET COVER
030456001	CUSHION
111253107	INST. MANUAL
139111001	COLOR LABEL (GOLD)
138295009	CONTROL CARD
010916040	CARTON CASE

Ref. No.	Part No.	Part Name & Descriptions	Qty
SCREWS & NUT			
101	4730354035	TAPPING SCREW (2) 3x8 (BLACK)	22
102	4730354019	TAPPING SCREW (2) 3x8	33
103	4770064107	FIXING SCREW	6
104	4700012012	PAN SCREW WITH W. SPW 3x12	5
106	4711303018	PAN SCREW 3x6	12
107	4730804035	TAPPING SCREW (2) 3x14	4
108	4700031016	TAPPING SCREW WITH TWB 4x10	4
109	4734801005	TAPPING SCREW (TRUS) 4x8	4
110			
111			
112			

ADDENDUM LIST

Ref. No.	Part Name & Descriptions	Part No.					
		E1 for Asia		E2 for U.S.A.		EC for Canada	EA for Australia
		Gold Version	Black Version	Gold Version	Black Version	Black Version	Gold Version
1	BACK PANEL	1069004001	1069004001	1069001004	1069001004	1069016002	1069026210
6	PWB BRACKET	-	-	4410455005	4410455005	4410455005	4410455005
8	FTZ LABEL	-	-	-	-	-	-
9	APPROVAL MARK	-	-	-	-	-	-
10	SP TERMINAL UNIT	ETC0740-M2	ETC0740-M2	ETC0740-M2	ETC0740-M2	ETC0740-M2	ETC0740-P2
17	TRANSISTOR	2740103003	2740103003	2740103003	2740103003	2740103003	2740103003
18	TRANSISTOR	(2501110(RI/OI))	(2501110(RI/OI))	(2501110(RI/OI))	(2501110(RI/OI))	(2501110(RI/OI))	(2501110(RI/OI))
20	INSULATING SHEET	2720074000	2720074000	2720074000	2720074000	2720074000	2720074000
27	HEADPHONE JACK UNIT	(258849(RI/OI))	(258849(RI/OI))	(258849(RI/OI))	(258849(RI/OI))	(258849(RI/OI))	(258849(RI/OI))
28	LED UNIT	4150234007	4150234007	4150234007	4150234007	4150234007	4150234007
29	LED UNIT	-	-	-	-	-	-
30	LED UNIT	-	-	-	-	-	-
31	LED UNIT	-	-	-	-	-	-
32	LED UNIT	-	-	-	-	-	-
33	LED UNIT	-	-	-	-	-	-
34	LED UNIT	-	-	-	-	-	-
35	LED UNIT	-	-	-	-	-	-
36	LED UNIT	-	-	-	-	-	-
37	LED UNIT	-	-	-	-	-	-
43	PUSH KNOB (A)	1130615134	1130615121	1130615134	1130615121	1130615121	1130615134
44	PUSH KNOB (B) ASS'Y	1130636000	1130636000	1130636000	1130636000	1130636000	1130636000
45	FRONT PANEL ASS'Y	1441257039	1441257039	1441257039	1441257039	1441257039	1441257039
46	ESC. PLATE	1441256030	1441256030	1441256030	1441256030	1441256030	1441256030
48	LED UNIT	ETC0739-M5	ETC0739-M5	ETC0739-M5	ETC0739-M5	ETC0739-M5	ETC0739-P5
49	LAMP UNIT	ETC0739-M2	ETC0739-M2	ETC0739-M2	ETC0739-M2	ETC0739-M2	ETC0739-P2
50	PUSH KNOB (C)	1130415211	1130415211	1130415211	1130415211	1130415211	1130415211
52	TOP COVER with Wood Board	1020183100	1020183100	1020183100	1020183100	1020183100	1020183100
53	TOP COVER without Wood Board	1120415011	1120415024	1120415011	1120415024	1120415024	1120415011
58	KNOB (A)	1120415011	1120415024	1120415011	1120415024	1120415024	1120415011
59	KNOB (B)	1120416023	1120416023	1120416010	1120416023	1120416023	1120416010
64	CAPACITOR (1200pF/500V)	-	-	-	-	-	-
101	TAPPING SCREW (2) 3x8	4730354035(21)	4730354035(21)	4730354035(24)	4730354035(24)	4730354035(24)	4730354035(22)
109	TAPPING SCREW (TRUS) 4x8	4734454038(4)	4734454038(4)	4734454038(4)	4734454038(4)	4734454038(4)	4734454038(4)
150	PAN SCREW WITH S.W 3x8	4700042005(2)	4700042005(2)	-	-	-	-
151	NUT M3	4756006008(2)	4756006008(2)	-	-	-	-
152	WASHER #5 BLACK	4751006016(8)	-	-	-	-	-
153	TAPPING SCREW (TRUS) 4x20 BLACK	4734460035(8)	-	-	-	-	-
154	TOOTH WASHER #2	-	-	-	-	-	-
155	3T LUG	-	-	-	-	-	-
156	TOOTH WASHER #4	-	-	-	-	-	-
205	FUSE LABEL	5130654058	5130654058	-	-	-	-
206	FUSE LABEL (T8.3A)	5130654091	5130654091	-	-	-	-
208	FUSE LABEL	-	-	5139115010	5139115010	5139115010	-
209	FUSE LABEL	-	-	5130607022	5130607022	5130607022	-
210	RUBBER SHEET with Wood Board	4610066139	-	-	-	-	-
211	DANGEROUS MARK SERIAL NO. PLATE	-	-	5138266009	5138266009	-	-
212	RIVET	-	-	5130885019	5130885019	-	-
213	WOOD BOARD (RI)	1011469008	-	4770126016	4770126016	-	-
214	WOOD BOARD (LI)	1011470000	-	-	-	-	-
216	FELT SHEET	1240032015	-	-	-	-	-
217	INDICATION SHEET	5130784000	-	-	-	-	-
218	NOTICE SHEET	-	-	-	-	-	-
219	NOTICE SHEET	-	-	-	-	-	-
220	VOLTAGE LABEL	-	-	-	-	-	-
221	BLIND SHEET	-	-	-	-	-	-
222	EARTH LABEL	-	-	-	-	-	-
223	CAUTION SHEET	-	-	-	-	-	-
224	CAUTION LABEL	-	-	-	-	-	-
225	CSA LABEL	-	-	-	-	-	-
a	SET COVER with Wood Board	5058092049	5040084007	5040084007	5040084007	5040084007	5040084007
b	CUSHION without Wood Board	5040084007	5030456001	5030456001	5030456001	5030456001	5030456001
c	CUSHION with Wood Board	5030374206	-	-	-	-	-
d	COLOR LABEL (GOLD)	5030456001	-	5139111001	-	-	5139111001
e	CONTROL CARD	5139111001	-	-	-	-	-
f	CARTON CASE with Wood Board	5019104015	5019104015	5019104044	5019104028	5017916040	5017916052
g	CARTON CASE without Wood Board	5010916040	-	-	-	-	-
h	COLOR LABEL (BLACK)	-	5139111014	-	5139111014	5139111014	-
i	WARRANTY IN ENVELOPE	5130603103	5130603103	5130603103	5130603103	-	-
j	PROTECTOR SHEET	5040077056	-	-	-	-	-
k	SAFETY INSTRUCTION	-	-	5111041005	5111041005	-	-
l	PAD	-	-	-	-	-	-
m	CAUTION PAPER	-	-	-	-	-	-
n	IMPORTANT LABEL	-	-	-	-	-	-
o	PRESET LABEL	5150290008	-	-	-	-	-
p	WARRANTY IN ENVELOPE with Wood Board	-	-	-	-	-	-

E1: with Wood Board, E2: without Wood Board

BLACK VERSION PARTS LIST (Same as SILVER VERSION except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
43	1130615121	PUSH KNOB (A)
44	1130636000	PUSH KNOB (B)
45	1441257039	FRONT PANEL ASS'Y
46	1441256030	ESC. PLATE
52	1130415211	PUSH KNOB (C)
55	1020183113	TOP COVER
58	1120415024	KNOB (A)
59	1120416023	KNOB (B)
109	4734454038	TAPPING SCREW (2) 4x8
d	5139111014	COLOR LABEL (BLACK)

Ref. No.	Part No.	Part Name & Descriptions
C339 ~342 C343 ~346	2554169000 2561030070	0.01 μ F \pm 5% 50V PLASTIC FILM 0.1 μ F \pm 5% 100V PLASTIC FILM
		SWITCHES
SW201 SW202 SW203	2120221000 2124511004 2124462001	ROTARY SWITCH MODE 2P PUSH SWITCH LOUD, SUB. 1P PUSH SWITCH DIRECT
		OTHER PARTS
	2221090101 EP-5667H1 2090008120 2036105032 2030230039 2050185038 2050185041 2050185054 4711303018 4756006008	P.W. BOARD TERMINAL PIN USED 40 JUMPER WIRE P=10mm USED 60 4P CONNECTOR CORD 1P CONNECTOR 3P WIRE HOLDER USED 6 4P WIRE HOLDER 5P WIRE HOLDER USED 2 3x6 CPS USED 2 3IN USED 2
VR201 VR202 VR203 VR204 VR301, 302 VR303, 304	2110424008 2110198004 2110309107 2110309110 2116025087 2116025016	VARIABLE RESISTOR 100k ohm MAIN VARIABLE RESISTOR 250k ohm BALANCE VARIABLE RESISTOR 50k ohm TREBLE VARIABLE RESISTOR 100k ohm BASS SEMI-FIXED RESISTOR 4.7k ohm IDLE SEMI-FIXED RESISTOR 100 ohm DISTORTION
		CAPACITORS (not included Ceramic \pm 5%, \pm 10%, 50V Type)
C201, 202 C203, 204 C209, 210 C213, 214 C215, 216 C217, 218 C219, 220 C223, 224 C225, 226 C229, 230 C231, 232 C233, 234 C239, 240 C241 243 C301 304 C311 326 C327 330 C331 334	2554193005 2554191007 2554161008 2544146004 2554079048 2534266004 2544181001 2554165004 2554187008 2554147006 2554183002 2551122095 2543016067 2544181001 2544089022 2544146004 2554149004 2534482008	0.1 μ F \pm 5% 50V PLASTIC FILM 0.082 μ F \pm 5% 50V PLASTIC FILM 0.0047 μ F \pm 5% 50V PLASTIC FILM 1 μ F \pm 20% 50V ELECTROLYTIC 0.01 μ F \pm 5% 100V PLASTIC FILM 7pF \pm 0.25pF 500V CERAMIC 1 μ F \pm 20% 100V ELECTROLYTIC 0.0068 μ F \pm 5% 50V PLASTIC FILM 0.056 μ F \pm 5% 50V PLASTIC FILM 0.0012 μ F \pm 5% 50V PLASTIC FILM 0.039 μ F \pm 5% 50V PLASTIC FILM 0.27 μ F \pm 5% 50V PLASTIC FILM 10 μ F \pm 20% 50V ELECTROLYTIC (8. POLE) 1 μ F \pm 20% 100V ELECTROLYTIC 100 μ F \pm 20% 50V ELECTROLYTIC 1 μ F \pm 20% 50V ELECTROLYTIC 0.0015 μ F \pm 5% 50V PLASTIC FILM 33pF \pm 5% 500V CERAMIC

Ref. No.	Part No.	Part Name & Descriptions
C339 ~342 C343 ~346	2554169000 2561030070	0.01 μ F \pm 5% 50V PLASTIC FILM 0.1 μ F \pm 5% 100V PLASTIC FILM
		SWITCHES
SW201 SW202 SW203	2120221000 2124511004 2124462001	ROTARY SWITCH MODE 2P PUSH SWITCH LOUD, SUB. 1P PUSH SWITCH DIRECT
		OTHER PARTS
	2221090101 EP-5667H1 2090008120 2036105032 2030230039 2050185038 2050185041 2050185054 4711303018 4756006008	P.W. BOARD TERMINAL PIN USED 40 JUMPER WIRE P=10mm USED 60 4P CONNECTOR CORD 1P CONNECTOR 3P WIRE HOLDER USED 6 4P WIRE HOLDER 5P WIRE HOLDER USED 2 3x6 CPS USED 2 3IN USED 2